JOURNAL
OF
CALENDAR REFORM

EDITORS
CHARLES D. MORRIS CHARLES C. SUTTER

Published by
THE WORLD CALENDAR ASSOCIATION
485 Madison Avenue, New York City
ELISABETH ACHELIS, *President*

VOL. IV JUNE, 1934 No. 2

TWELVE VERSUS THIRTEEN

By GEORGES DE PLINVAL

French Economist and Contributor to the Authoritative Paris Revue Nouvelle d'Economie

(Translated from the French by D. G. Shea)

MORE important to the general public in France than the adoption of the metric system, of standard time, of daylight saving or any other similar improvement in our systems of measurement, is the proposed revision of the calendar. Such a revision would aim to correct the imperfections and inequalities of the present calendar by a partial or total reform, which at the very least would establish a "perpetual" calendar, identical for every year.

Calendar reform has recently been the subject of important studies and discussions throughout the world. In France, the National Economic Council, under the presidency of M. Francois-Poncet, has gone into the subject in considerable detail, with M. Bertaut as its investigator and spokesman. In other countries there have been similar activities.

International organizations have taken up the question, and are making efforts to obtain action by various influential governments. Up to now public opinion, at least in France, has not been sufficiently aroused. In this article, I desire to point out the danger of apathy toward such a question,—the danger being that through public inertia an undesirable type of reform may gain ground and thus block a desirable revision.

There has been an active group of propagandists engaged in promoting the plan for a year of 13 months. The principle behind this proposal

however, is a little childish. It involves an excessive simplification, aiming to standardize time on the basis of a model 4-week month, thirteen times repeated. Thus the week and the month are singled out as the only units important in marking the passing of the days or in measuring the rhythm of human activity.

Those who have been impressed with the concise simplicity of this 13-month plan have not, I think, reflected sufficiently on the overwhelming disturbance which its introduction would cause. The difficulties of every kind, psychological and practical, which would attend its installation, would bring immediate and inevitable failure.

Calendar change must be evolutionary, not revolutionary. There are a vast number of deeply rooted human habits and customs which cannot be changed by a mere legal gesture. For 2,000 years people have followed a certain system in measuring time; since the childhood of the race we have been marking the various events in our history by this system; in our own lives we have used it to chart our work and play, our anniversaries, our holidays and our travels, our most cherished remembrances, our future plans and prospects. Almost all of us would instinctively resent a change which would upset these schedules,—as a 13-month calendar would most certainly do.

It is easy for advocates of the 13-month system to dismiss with a wave of the hand the psychological effects of the "era of transition" which they plan to impose upon the world, but this transition is none the less a real obstacle, which would be violently upsetting to the millions of people who would be asked to change their cherished dates and programs. In fact, no practical politician can believe that the general public would ever passively accept any such crudely imposed plan to cut their life roughly in twain, to force them into a new order having no connection with the past except by way of laborious calculation. The "era of transition" would be an era of upheaval in which all human activities would have to be planned hesitatingly according to a new and ill understood scheme of time-measurement, with a strange and unfamiliar 13th month.

I believe I am not exaggerating when I say that such an innovation would mean for each one of us a complete change in certain deeply-established habits and a distinct break with the past in our memories. It would leave us with mental confusions which we would be long in repairing. It would set us to a difficult task of coordinating between past and present, between two different eras in which we must live.

Our individual habits of life constitute a pattern of the greatest importance, strengthened as they are by an inheritance of racial, national, historical and religious traditions. I mention religious traditions, and it is well to repeat the phrase. For religion must necessarily have something to say regarding this matter of calendar reform. Christianity

during 19 centuries has enriched and elaborated the learned and complex calendar under which we now measure time. Religion has adorned it with souvenirs of saints and events in sacred history. Dates of religious feasts, whether days of rejoicing or of mourning, are ingrained in the social memory of most European peoples, so indelibly that even those with no religious sentiments recognize and observe them. Easter, Christmas and All-Saints' Day do not belong to any cult: they are part of the inheritance of contemporary humanity. No serious thinker wants to abolish them; but how could they be re-established in a calendar of 13 months? It has been suggested that they could be preserved by having two calendars side by side, a civil calendar and a religious one,—but surely that is not the "simplicity" which is sought by advocates of calendar reform.

However, my objections to a 13-month calendar are not based solely on psychological and sentimental grounds. On the practical side, it has not been proved that the 13-month plan would bring any improvement. Advocates of the scheme argue that "the week represents the lapse of time during which the workingman puts forth the efforts that bring him his wage, and therefore the week is the unit which should be the basis of the industrial and economic year." But man does not live by work alone, nor is his life solely compassed by the hours which he devotes to toil. Industrial efficiency and convenience are not the sole or even the main purpose of human existence.

Neither the week, unit of the workingman's wage, nor the month, unit of payment for most salaried employees and public officials, are necessarily the "basis" for all the varied activities which make up human life, outside the factory and the counting room. Civilized man does not live from day to day, nor within the limits of one to four weeks. Rather, he tends to live in the complete cycle of the year.

If any unit of time measurement is paramount to the typical or average man, it is the year,—in which he budgets not only his income and his expenditures, but his family life, his recreations, his cultural activities. It is the year which he uses most often in studying the ensemble of his whole activities. And when the year proves too long a space, he is very likely to divide it, in the manner of the seasons, into halves or quarters.

So the half-years and quarters have become an incomparable convenience in the time calculations of the average human being. A calendar system which destroys the halves and quarters, and imposes an awkward and unmanageable division into 13 units, is not an improvement.

Thoughtless the man must be who advocates dividing the year into 13 parts. Twelve is, of all numbers, the most useful in its divisibility. Since time immemorial, man has regulated his life on the succession of the

seasons, and has sought in his calendar to adhere as closely as possible to the astronomical and meteorological year.

A year divided into four parts is an ideal time arrangement. It is one which man's reason has developed as the fundamental base of his calendar. On the four great symmetrical divisions of the quarter years he has systematized his life, his occupations, his recreations, his obligations. The farmer, by the very nature of things, was the first to acknowledge his dependency upon the quarterly division of the year; he was the one who originated it, copying it from nature in days when agriculture was man's chief preoccupation. The industrialist has followed the farmer's lead, and wherever business and finance has any importance, the quartered year is recognized as vital and fundamental.

The quarterly year, then, is the classical and accepted year of western and Christian civilization. It is 2,000 years old in its structure, and must remain at the foundation of any improved universal calendar. Unchangeable and necessary, from the viewpoint of human history and experience, is the division of the year into four quarters and 12 months.

So, I think, we must reject the year of 13 months as dangerous and indeed impossible. But this does not mean that we cannot improve our present calendar.

There are certain obvious imperfections in our present system. They cause unnecessary and troublesome complications and inefficiencies. They have no place in our modern life, which demands simple, accurate and unvarying units of measurement. Let us catalogue these imperfections: unequal months, movable feasts, shifting holidays, each year a new calendar, the position of the weekdays shifting and always different from year to year.

Is it possible, without destroying the whole system, to remedy these inconveniences? I believe that it is. In fact, only a few minor changes are required to produce a completely satisfactory calendar.

We retain the division of the year into 12 months. We give to the first month of each quarter 31 days; to all the other months 30 days each. Then we take the 365th day, the last day of December, and count it as a special holiday, without a week-day name,—thus we prevent the perpetual shifting of the calendar and make every year identical. (In leap years, the 366th day would be similarly treated, being intercalated in mid-year, at the end of June.)

This "Year-end Day" would not be an outlaw in the calendar; it would not be a wandering or lost day (like the *jours sans-culottides* of the French Republican calendar), for it would be considered as an extra Saturday, a late-arriving child of the departing year. It serves a mighty purpose, making the succession of month-days and weekdays the same from year to year, and even from quarter to quarter. Thus all we need

to do is to memorize the order of the days for one quarter, and the whole calendar is memorized for all time to come.

Studying this proposed new calendar in detail, one is struck by the comparatively minor changes which it makes in any day or date. The year always begins on Sunday. Easter would be fixed, in all probability, on a date early in April. The feast days of the church would cease to shift. Holidays would be adjusted to fall conveniently in week-ends, there would be no more *ponts accidentals;* no more would holidays need to come in mid-week and interrupt production and business. There would instead be a lengthening and joining of holidays into week-end periods convenient for travel and recreation. Such a calendar has everything in its favor. The changes are so small that the transition from old to new would pass almost unnoticed. There is nothing to offend customs and traditions,—only a greater convenience and regularity.

The desire for a more rational calendar has been stirring for more than a century, and this desire will eventually win its object, just as it did in the time of Julius Cæsar and Gregory XIII. The history of the calendar is a chronicle of regular improvement. It is recorded in Hesiode, Aristophanes and Horace; it is a part of the literature of the race. Hesiode tried to set down the seasons for agricultural work according to the rising of the stars and the migrations of birds; Aristophanes coupled the arrival of spring with the singing of the cuckoo; Horace sang the connection between the seasons and the gentle breezes of Favonius.

Gradually calendar science grew up, weaning itself from poetry and superstition. It became really scientific, and the minds of men sought constantly to make their time measurement more accurate.

In the past 50 years, we have seen the universal adoption of "standard time," a tremendous advance over the old system, when each city had its own version of "sun time." Standard time standardized our days, just as Julius Cæsar and Gregory had standardized our years.

It remains for us now to take up the standardizing of the year's internal units. In this, our aim will be to reform our present system so that, within the year, we shall have units that will scientifically subdivide the time periods which we use constantly for our records and our comparisons. We seek to make this improvement without upsetting ancient customs and traditions; we seek to simplify, not to complicate.

Historians tell us that one of man's greatest achievements is his conquest of time measurement. Bossuet has said that in doing this "man has obliged the sun to render count of all his steps," and Auguste Comte, in a similar vein, has eulogized man as one "whose activities can be better regulated than the movement of the stars."

Adoption of the 12-month equal-quarter calendar is another step in the evolution of time measurement toward perfection.

STATISTICAL OPINION

By T. W. GERBER

United Press, New York City

MEMBERS of the American Statistical Association, replying to a questionnaire issued by the United Press, favor calendar reform by a vote of nearly 9 to 1. They urge definite legislative action, looking to the international adoption of a new calendar within five years, by a vote of nearly 8 to 1. They prefer the 12-month equal-quarter plan, as compared with the 13-month plan, by about 2½ to 1.

In the 491 replies received by the United Press, prominent statisticians from all parts of the country make a great variety of interesting suggestions and comments, many of which will be published later in pamphlet form. The majority of them believe that the United States Government should take action toward calendar reform.

The exact result of the questionnaire is summarized below, the totals being tabulated by the International Business Machines Corporation:

Question No. 1. Do you believe that the present calendar should be changed?

Yes, 419; No. 48; Non-committal, 24.

Question No. 2. Do you favor definite legislative action looking to an international reform of the calendar within the next five years?

Yes, 396; No, 53; Non-committal, 42.

Question No. 3. Which of the two major plans for calendar reform (the 12-month equal-quarter plan and the 13-month plan) do you prefer?

For the 12-month plan plan, 294; for the 13-month plan, 117; Neither plan, 19; Non-committal, no answer and miscellaneous, 61.

Question No. 4. What action, if any, do you think the United States Government should take in the matter?

Cooperate or lead in international action, 121; National action by legislative endorsement, appointment of a commission, educational program, "affirmative action," etc., 195; No action, 52; No answer, 94; Non-committal, uncertain and "not opportune at this time," 29.

JAPAN'S ATTITUDE

By Ernest W. Clement

For 36 years the author lived in Japan as a teacher in the Middle School of Mito, the Duncan Academy of Tokyo and the Junior College of Tokyo. For 25 years he was also Tokyo correspondent of the Chicago Daily News. He was prominent in the Asiatic Society of Japan, occupying the offices of Librarian, Secretary and Vice-President. He is the author of "A Handbook of Japan" and "Short History of Japan," together with many studies of Japanese chronology, such as "Japanese Floral Calendar," "Japanese Calendars" and "Japanese Chronology."

JAPAN'S attitude on calendar reform has been summed up in the following official declaration made by Motoharu Shichida, Secretary of the Japanese delegation, at one of the Geneva conferences: "Japan is not able to accept any reform which would give the year 13 months, *for reasons which it is not necessary* to explain fully. But I wish to point out that such a plan would cause certain inconveniences for countries like ours, which from custom attach particular importance to the unity of day and month, without giving the week as much emphasis as do other countries. My government recognizes the faults and serious inconveniences which exist in the present calendar system. It has yet to come to a firm decision as to whether the time is now ripe for calendar reform. But the question being one of universal character, our delegation is ready to give the problem its fullest consideration."

The reasons which Mr. Shichida did not "explain fully" were presumably of several varieties, based on Japanese habits, customs and religious beliefs. I have no authority to speak for him or his delegation; but I may be able to supply information on the subject. A 13-month calendar is inconvenient for Japan, then, for several reasons.

I. First, as Mr. Shichida points out, on account of the comparatively minor importance of the week in the Japanese mind—a fact that makes an exact four-week month of no special significance in that country—except, perhaps, to Jews and Christians. The week of seven days was one of Japan's imports from the West. In old Japan, the lunar month of 29 or 30 days was divided into three *jun*, or decades—upper, middle and lower; and those approximate 10-day periods were of no little importance.

The days of the month were most commonly known by either their numerical names or their zodiacal names. According to one or both of these systems of nomenclature, each day was lucky or unlucky.

Soon after Japan was thrown open to the world, a plan was adopted of making holidays out of the days whose numbers ended in "one" or "six" (1, 6, 11, 16, 21, 26). But that was soon abandoned in favor

of the week with a Sunday holiday as in the Gregorian calendar. The names of the days of the week were an adapted translation from the European names: Sun-day, Moon-day, Mars-day, Mercury-day, Jupiter-day, Venus-day, Saturn-day. The so-called "seven luminaries" furnished those names. Of course, after 60 years' use of the week, the Japanese have found it rather convenient; for example, there are organizations named "Tuesday" or "Thursday" Society, and Sunday is a regular legal holiday.

II. Next may be mentioned the importance of divisibility in the calendar. The Japanese are, in some ways, not inclined to mathematics; but, in other ways, they are very particular about fractions. They accept a 12-month year, even with all the irregularities of the present European calendar in month length, because it is divisible into halves, thirds, quarters, and sixths. A 12-month calendar, like The World Calendar, would be even more acceptable because it is more regular.

Even when the Japanese observed the old lunar calendar, which required a thirteenth month every two or three years (seven times in 19 years), the extra month was not called "thirteenth" month, but was given the same number as its preceding month. I have before me a table of the intercalary months for 57 years (1847-1903), and find one second month, three third months, three fourth months, six fifth months, two sixth months, two seventh months, two eighth months, one tenth month, and one twelfth month. "Thirteen" was not rejected for any superstitious reasons, because it is, in some cases, lucky. The "thirteenth night," particularly in the ninth month (old calendar), was a special time for moon-viewing, because the moon was about full. "Thirteenth Day" is used as a man's name and probably indicates the day of his birth. But for practical, mathematical reasons, it had no attraction.

The Japanese were accustomed for centuries to a lunar year of four seasons (spring, summer, autumn, winter), with two equinoxes and two solstices in those seasons. (Some scholars, especially Bramsen, Danish authority on Japanese chronology, account for the incredibly long lives and reigns of the early emperors of Japan by suggesting that a "year" may have been only six months long, from equinox to equinox.) The lunar year was divided, not only into 12 months, but also into 24 *setsu* (solar terms), which to a great extent indicated the weather. Theoretically, the beginning of the year corresponded with the "beginning of spring" in the *setsu*. There were, in the lunar year, six *hassen* (a period of 12 days, "unlucky for marriage matters"). There were also six special rat-days (about every two months, or 60 days) that were sacred to Daikoku, god of wealth; six special serpent days, sacred to Benten, goddess of the sea; six special monkey days, sacred to Koshin, represented by the three (blind, deaf, dumb) monkeys. There were also 72 *ko* (seasons) in a year. Note the relation of all those figures to twelve.

A similar thing was true of the hours of the day: there were six each (a.m. and p.m.), called ninth, eighth, seventh, sixth, fifth, fourth, each 120 minutes long, with two *koku* (upper and lower) of 60 minutes each. So with the cycles of the years: it required five times twelve years to make the sexagenary cycle. These figures, too, show the popularity of twelve, with its divisions and multiples.

This is graphically portrayed in the following Time Table from "Japanese Calendars" in the Transactions of the Asiatic Society of Japan:

60 seconds *(byo)*	make	1 minute *(fun)*
15 minutes	"	1 quarter *(koku)*
8 quarters	"	1 hour *(toki, ji)*
96 quarters or 12 hours	"	1 day *(nichi, hi, jitsu)*
10 days	"	1 decade *(jun)*
29 or 30 days	"	1 moon *(tsuki, getsu, gwatsu)*
12 moons	"	1 year *(toshi, nen)*
60 years	"	1 cycle *(kiho, kwanreki)*

In this connection, it should be emphasized that the Japanese attach great importance to the twelve signs of the zodiac. The Oriental heavenly menagerie includes the rat, ox, tiger, hare, dragon, serpent, horse, goat (sheep), monkey, cock (bird), dog, and wild boar. The Japanese applied those names, not only to the year as a whole, but also to each of the twelve months of the year; to each of the 30 (or 29) days of the lunar month, and to each of the twelve hours (6 in a.m. and 6 in p.m.) of the days. There were (and still are, to a less extent) many superstitions concerning the influences of those animals upon year, month, day and hour. The acts of the people were profoundly influenced thereby. (The present year, 1934, is "Dog Year"; next year will be "Wild Boar Year," the last of a sexagenary cycle; 1936 will begin a new cycle as "Rat Year.")

III. Some reference should be made here to the very numerous family, local and national festivals, most of which are connected, directly or indirectly, with ancestor-worship. It would be difficult to make them fit into a 13-month calendar; it would be comparatively easy to fit them into The World Calendar 12-month year. The latter is only slightly different from the Gregorian Calendar, to which the Japanese have now become accustomed by regular use for over 60 years, since January 1, 1873. The Japanese, in spite of inconsistencies and paradoxes in methods of reckoning time, have a natural liking for regularity and routine.

At this point, it may be well to illustrate the difficulties in a change of calendar in Japan. When the Gregorian Calendar went into effect in the West in 1582, ten days were lost by the transaction. When it went into effect in Japan, the third day of the lunar twelfth month of the year was made January 1, 1873, so that 27 days were lost. It is not strange that, as in England, general discontent was manifested by the common people who cried out for their lost days. They especially ridi-

culed the idea that, by the new-fangled reckoning, the new moon might rise on the very last day of a month. This seemed ridiculous, because they were accustomed to have the first day of each lunar month mark a new moon and the 15th day mark a full moon. The great moon-viewing festival was on the 15th day of the ninth month; that is, in October.

Another difficulty may be illustrated by the "Five Festivals," which fell on the first (afterward changed to the seventh) day of the first month, the third day of the third month, the fifth day of the fifth month, the seventh day of the seventh month, the ninth day of the ninth month. When the new solar calendar came into effect, the old *date* was retained for a new *day*, and they were arbitrarily put back to January 7, March 3, May 5, July 7, September 9. That did not happen to make any great trouble in the cases of the Girls' "Festival of Dolls" in March, the Boys' "Festival of Flags" in May, or the Star Festival in July; but in the cases of the other two, the time was "out of joint." By the lunar calendar, the first of those festivals fell in the solar month of February and was celebrated with a special dish of seven vegetables, which it is very difficult, if not impossible, to obtain in January. The festival of the ninth month (falling in October) was called "Chrysanthemum Festival" and was celebrated with the special use of chestnuts; in September it is too early for either chestnuts or chrysanthemums.

It should be noted that while for convenience what is written above is arranged under three separate heads, the ideas overlap and interlace; they are not absolutely distinct. Anyhow, separately and collectively they illustrate Japan's objections to a 13-month calendar and her preference for a 12-month calendar like The World Calendar.

Students of calendar reform may be interested in a brief summary of some of the details of the picturesque background provided by the ancient Japanese calendar, which is still used, often somewhat surreptitiously, among millions of peasants and farmers. We have already noted that the common interval used in reckoning time was equivalent to two hours, and that these periods were numbered backward, the half day starting with the so-called ninth period, which was followed by the eighth, seventh, sixth, fifth and fourth. Why did they count the hours backward? And why, as there were six periods, did they not count from six to one, instead of beginning at so arbitrary a number as nine? The reason is this: three preliminary strokes were always struck, in order to warn people that the hour was about to be sounded. Hence if the numbers one, two and three had been used to denote any of the actual hours, confusion might have arisen between them and the preliminary strokes, a confusion analogous to that which, in our own still imperfect method of striking the hour, leaves us in doubt whether the single stroke we hear is half-past twelve, one o'clock, half-past one, or any other of the numerous half-hours.

Japanese scholars show that the style of computation used for the hour-periods was based on multiples of nine ($1 \times 9=9$; $2 \times 9=18$; $3 \times 9=27$; $4 \times 9=36$; $5 \times 9=45$; $6 \times 9=54$); and in each case the tail figure of the product was chosen as the name of the hour (9, 8, 7, 6, 5, 4).

The Japanese, it has been said, "have plenty of time." Even at the present time, they employ several different ways of reckoning the days, months and years. They have both solar and lunar time; Japanese, Chinese and Occidental time; two national calendars and several special periods. So they have literally "a time for everything."

Of the two purely Japanese calendars, one reckons time from the mythological founding of the Empire in 660 B.C., and is known as *Kigen*, or history-beginning; the other is the special period called Meiji, or Enlightened Rule, which began after the accession of the Emperor Meiji.

Thus, I happen to have before me an old issue of the Kokumin Shimbun, a Tokyo newspaper, and find the following dates: Meiji, 35th year; Kigen, 2562; Occidental calendar, 1902; Chinese calendar, Kocho, 27th year. Second month (February), 7th day, Friday. Old calendar, Ka-no-to-Ushi, 12th month, 29th day, Ka-no-to-Tori. Sun rises 6:39 a.m.; sun sets, 5:12 p.m.; moon rises, 5:17 a.m.; moon sets, 4:04 p.m. High tide, 4:33 a.m.; 4:56 p.m.

Under the old Japanese calendar there were 24 half-monthly periods whose names indicated the weather, and which the farmer carefully followed in planning his labors. Beginning in February, they were named (grouped by quarter-years): Rise of Spring, Rain Water, Awakening of Insects, Vernal Equinox, Clear and Bright, Cereal Rain. Rise of Summer, Little Filling, Grain in Ear, Summer Solstice, Little Heat, Great Heat. Rise of Autumn, Limit of Heat, White Dew, Autumn Equinox, Cold Dew, Frost Fall. Rise of Winter, Little Snow, Great Snow, Winter Solstice, Little Cold, Great Cold.

The peasantry also observed, and continue to observe, other special times. For instance, they sow their rice on the 88th day from the beginning of spring, and they plant it out in Nyubai, the period fixed for the early summer rains. The 210th and 220th days from the beginning of spring, and the first day of the eighth month (old calendar) are looked on as days of special importance to the crops, which are certain to be injured if there is a storm, because the rice is then in flower. These days fall early in September, in the middle of the typhoon season. St. Swithin's Day has its Japanese counterpart in Ki-no-E Ne (Natural Wood or Rat Day), which comes around once in every two months approximately: if it rains then, it will rain for 60 days on end. Again, if it rains on the first day of a certain period called Hassen, of which there are six in every year, it will rain for the next eight days. And these periods, being movable, may come at any season. Quite a number of Japanese festivals, pil-

grimages to temples, and other functions depend on the signs of the Zodiac. Thus the mayudama, a sort of Christmas tree decorated with cakes in honor of the silk worm, makes its appearance on whatever date in January may happen to be the first day of the Hare.

We have noted that in old Japan the week was entirely unknown. When it came into use, in place of the "ones" and "sixes," Sunday was called in vulgar parlance "Dontaku," a corruption of the Dutch "Zontag," and Saturday was called "Handon," or half-Sunday.

The days of the month were named in the old Japanese calendar, not only in their numerical order, but also according to a sexagesimal cycle. And the latter names were perhaps more important than the numerical ones, because according to these special names a day was judged to be either lucky or unlucky for particular events. Every day had its degree of luck for moving the household from one home to another, and indeed for actions of any kind. There were special days for marriages, for opening stores, for putting up signboards. Many people would not wash their heads or hair on the day of the horse.

In considering the Japanese official declaration in opposition to a 13-month calendar, and the general willingness to consider the alternative 12-month proposal for calendar reform, it should always be remembered that the Japanese mind has an innate "love for numbers." Numerical symmetry has always possessed a charm for them. Their vocabulary is rich in numerical expressions. H. G. Wells has pointed out that there are certain races which are "counting peoples, strong in their sense of equivalents and reparations." The Japanese are emphatically such a people. Numbers exercise a peculiar fascination over them. They have the mental disposition to divide up and parcel out almost all things visible and invisible into numerical categories fixed by unchanging custom. And this trait of mind has a bearing on their attitude toward calendar reform.

IRELAND OPPOSES THIRTEEN

MICHAEL MacWHITE, Minister Plenipotentiary of the Irish Free State at Washington, in an official statement to The World Calendar Association, quotes President de Valera regarding Ireland's views on calendar reform:

"Apart from a few private individuals who have interested themselves in the matter, there is in the Irish Free State no demand for any reform of the present calendar. The present attitude of public opinion in the Irish Free State with regard to this question is almost entirely negative; but any proposed scheme of reform which involved radical or far-reaching changes in the present calendar would certainly encounter strong opposition in my country.

"For this reason, if the present objections to a reform of the calendar were to be removed and a scheme of reform were to be proposed for general adoption, the Irish Government would favour the retention of a 12-month year, as against a year of 13 months. Further, my Government takes the view that the question of calendar reform is one that intimately concerns the ecclesiastical authorities; for this reason they consider that no proposals for the reform of the present calendar should be initiated or adopted, without prior ecclesiastical sanction."

FROM THE LEAGUE OF NATIONS

By E. KEY-LEHMANN

Member of the Section of Communications and Transit of the League of Nations, in charge of Calendar Reform

AMONG all the questions with which the League of Nations has dealt since its creation, there is none which affects the everyday life of all men and women, whatever their condition or profession, to such an extent as the question of how their time should be divided.

The League's activities in regard to calendar reform cover a period of eleven years, from 1923 to the present time. During that period the whole problem has been carefully investigated and studied in all its international aspects, this work culminating in the sessions of the Fourth General Conference of 1931, at which 44 nations were represented. While no definite and binding decisions were reached, except in the matter of the stabilization of Easter, the progress made has been far-reaching and important.

As to the future developments of calendar reform it is difficult to express an opinion. The economic and financial conditions prevailing when the General Conference met in 1931 have hardly changed for the better, and new big political problems have arisen since then. Whether this situation will prevail when the agenda for the forthcoming (Fifth) General Conference is discussed—the Conference should be held in 1935—is impossible to state. Pessimists will fear that the prospects for a solution of the calendar problem will not be better than they were in 1931, in spite of the excellent work carried out by The World Calendar Association and other private organizations to enlighten public opinion. Optimists will point to the fact that political and economic situations call for many changes which should not exclude those proposed by the advocates of calendar reform. Changes are occurring at a terrific pace nowadays, even in old Europe, so that it is impossible to foresee what things will look like six months hence.

The League of Nations' Technical Organization, dealing with transportation questions, undertook in 1923 to study the problem of calendar reform and stabilization of Easter; several international congresses—religious, scientific and business—had already examined the questions between 1900-1914 and had pressed for a solution. Among these bodies were the Congress of the International Astronomical Union and the International Chamber of Commerce. At a Conference of the latter organization, held in Paris in 1914, the Swiss Government was asked to convene a Conference on calendar reform. That Government had already started to collect material for this Conference when the World War broke out

and interrupted the work. The information collected by the Swiss Government was later put at the disposal of the League of Nations Secretariat and utilized for its preparatory work.

True to one of the League's leading principles, i. e., that each problem should be dealt with on its practical and technical merits irrespective of political considerations, by the best-qualified experts and by representatives of the chief interests concerned, the Committeee for Communications and Transit set up a special Committee composed of the following members: Jonkheer W. J. M. van Eysinga, Professor at the University of Leyden (appointed by the League), Chairman; the Rev. Father Gianfranceschi, President of the Academy Dei Nuovi Lincei (appointed by the Holy See); Professor D. Eginitis, Director of the Observatory of Athens (appointed by the Ecumenical Patriarch of Constantinople); the Rev. T. E. R. Phillips, Secretary of the Royal Astronomical Society of London (appointed by the Archbishop of Canterbury); Professor M. G. Bigourdan, formerly Chairman of the International Astronomical Union's Committee on the Calendar (appointed by the League); Willis H. Booth, New York banker, President of the International Chamber of Commerce (appointed by the League).

It was decided that this Committee should investigate the questions of calendar reform and stabilization of Easter. The Communications and Transit Committee considered that these two problems were independent of one another and could be solved individually.

The special Committee pursued its investigations from 1924 to 1926. A preliminary examination led to the conclusion that from a strictly dogmatic point of view neither the reform of the calendar nor the stabilization of Easter encountered any difficulties which could in advance be regarded as insuperable. In the course of its enquiry the Committee sent out a questionnaire to governments, religious authorities and various international associations representing finance, communications, commerce, education, industry, transportation, agriculture, labor, science, sport and women's interests. The Committee thus had before it a considerable amount of material including 185 reform schemes* from the most varied sources and countries, which had been communicated to it. The Committee was then able to define the scope of the problem before it and distinguish between three main groups of reforms, taking into account both the intrinsic merits of the reform schemes and their chances to be accepted by the public. The first group of reforms confines itself to relative equalization of quarters, each quarter consisting of two months of 30 days and one month of 31 days, while one of the quarters would have an additional day. This reform would not make the calendar

* In the period between 1926, when the Special Committee drew up its report, and 1931, when the General Conference of the League of Nations met, 375 more plans were received.

perpetual. The second and third groups provide for a *perpetual* calendar of 12 and 13 months respectively, with the introduction of a "blank" day* (two such days in leap years).

The Committee did not decide in favor of any special group, but stated the advantages and disadvantages of each type of reform. It took the view that the question of calendar reform was not an abstract problem of the theoretical advantages of any given scheme but one dependent on possibilities of practical application, the demands of public opinion and the stage reached in its development. The Committee nevertheless considered that, although there were powerful propaganda movements in favor of calendar reform it must be admitted that public opinion was not prepared to accept or demand an immediate reform in a given direction. It concluded that the circles concerned in each country must pursue their studies and keep in touch with the League, which would take steps with a view to international agreement when it considered that the requisite conditions for such agreement existed in each country. The special Committee further concluded in favor of the stabilization of Easter. Its report, addressed to the Communications and Transit Committee, was approved by that body and distributed to the League Assembly and the Governments.

The League Assembly, endorsing a resolution of the Communications and Transit Committee, recommended the creation of *national committees* on calendar reform to pursue the studies and educate the public. Such committees were set up in most European and non-European countries and carried out serious enquiries among the representatives of the principal interests concerned from 1928 to 1931. The United States National Committee was formed even before the Assembly had adopted the resolution referred to above. Its Chairman was the late George Eastman. In December, 1928, the Secretary-General of the League received a telegram from the President of the United States National Committee on Calendar Simplification, stating that the Congress had "respectfully requested the President to propose on behalf of the United States to the nations of the world the calling of an international Conference for the simplification of the calendar or to accept an invitation on behalf of the United States to participate in such a Conference."

Meanwhile, several international associations and organizations—among which were the Pan-American Conference at Havana in 1928 and the International Chamber of Commerce at its Amsterdam Congress in 1929—again urged for action.

The Council of the League, endorsing a proposal of the Communica-

* The "blank" day is a supplementary or intercalated day bearing no week day name. This is necessary in order to make the month dates fall on the same weekdays every year, since the year consists of 52 weeks plus one or two days. Many advocates of calendar reform now prefer to call it a "stabilizing day."

tions and Transit Committee, decided in January, 1931, that the Fourth General Conference on Communications and Transit which was to meet that year should examine: "the expediency from an *economic* and *social* standpoint (a) of fixing movable feasts; (b) of simplifying the Gregorian Calendar."

In order to prepare for the Conference, a Committee consisting of representatives appointed by fourteen Governments met at Geneva in June, 1931. Dr. Charles F. Marvin, of the United States Weather Bureau, was a member of this Preparatory Committee. That Committee examined the reports received from the various national Committees—among which were those from the United States and certain South American countries —and drew up a comprehensive report to the Conference stating the defects of the Gregorian calendar, explaining the plans for a reform and their advantages and disadvantages, and the state of public opinion as derived from the reports of the national Committees. It also recommended the stabilization of Easter on the Sunday following the second Saturday in April, but pointed out that this was an essentially religious question and that no decision was practicable without an agreement among the high religious authorities.

The General Conference met in October, 1931. Delegates and experts from 44 countries took part in its work. A large number of international organizations were represented in an advisory capacity and the Conference heard declarations of representatives of several religious bodies and calendar associations. The well-balanced statement made by the distinguished President of The World Calendar Association aroused favorable comments among delegates. But the discussions at the Conference soon showed that the time had not yet come for conclusive action.

In the first place, it was evident from the reports of the national committees that public opinion in the various countries—with one or two exceptions—was not sufficiently developed to allow of a general agreement. The urgent economic and social problems which had arisen out of the world crisis had undoubtedly diverted the attention of Governments and private interests from less pressing questions. Secondly, representatives of Sabbatarian religious interests, such as Seventh Day Adventists and Orthodox Jews, were heard by the Conference and vividly described the social and economic drawbacks to orthodox Sabbath observers which would result from the introduction of a perpetual calendar with "blank" days. They said that their Sabbath, which would continue to be observed in the same way as hitherto and which now always falls on a Saturday, would then become a "wandering Sabbath" and fall on different weekdays. This would of course render its observance more difficult and more onerous, and would lead to temptations when it came to choosing between religious and business interests.

The Conference was thus faced with the following situation: On the one hand, very good reasons and sound arguments for a reform but no real craving for its introduction; on the other hand, religious "scruples," as the British delegate put it, vividly depicted by fiery eloquence. The Conference, therefore, considered "that the present was not a favorable time, taking into account the state of opinion, for proceeding with a modification of the Gregorian calendar."

Most of the delegations clearly recognized that the present calendar has certain disadvantages and expressed the opinion that "it would certainly be desirable, in principle, to secure a simpler measure of time, more accurately appropriate to the needs of modern economic and social life." A great majority of delegations further considered that "a mere equalization of quarters would not be accompanied by advantages sufficient to counterbalance the difficulties which must necessarily be encountered in connection with any modification of traditions or any period of transition." The Conference examined the respective merits of the 12-month and 13-month perpetual calendars, without pronouncing itself for or against one or the other. It finally instructed the Communications and Transit Committee "to follow the efforts which will doubtless continue to be made for the purpose of enlightening opinion as to the advantages or disadvantages of a reform, and to keep the Governments regularly informed on the matter."

The question of the stabilization of Easter was far less complicated, and the Conference adopted an Act whereby the Governments declare that they "consider, from the economic and social standpoint, that the common good calls for the stabilization of movable feasts." The date selected was the same as that chosen by the Parliament of Great Britain, namely, the Sunday following the second Saturday in April. The Conference recognizing that the stabilization of movable feasts is a preeminently religious question, asked the Council of the League of Nations "to bring the Act to the notice of the religious authorities concerned, expressing the hope that they will consider what action they may take in the matter."

VENEZUELA ENDORSES CALENDAR REFORM

TWO significant statements have been received by The World Calendar Association from Venezuela indicating that country's position on calendar reform. Sisto Sosa, Bishop of Cumana, states: "I wish to inform you that The World Calendar proposals seem to me of immense value, especially those referring to the liturgy. In the near future, the bishops of Venezuela will hold an Episcopal conference and probably will exchange impressions on this very important matter. The project has all my sympathy, and if all the Venezuelan bishops are of the same opinion, it will give me the greatest pleasure to bring the matter to the attention of the Vatican." An official statement from the Government of Venezuela, through the Minister of Foreign Affairs, says: "Venezuela will have no objection in adhering to the proposed reform of the calendar if the measure is approved and accepted by a majority of the nations in 1935."

CANADA SUPPORTS REVISION

By CHARLES BIELER, D.D.

Emeritus Professor of Christian Ethics, United Theological College of Canada

(From a Radio Address Delivered in French under the auspices of McGill University over Station CKAC, Montreal)

RECENTLY, Canada has become keenly aware of the active world-wide agitation for an improvement and rectification of the calendar, to remove some of its irregularities and imperfections. The League of Nations has made a very careful study of the question, and has designated one of its active commissions to encourage a better calendar.

The principal criticisms which are made against the present calendar are as follows: (1) The irregular length of months, which vary from 28 to 31 days; (2) The lack of harmony between week-days and month-days, whereby the same date never falls on the same week-day in successive years; (3) The inconvenience of the wandering Easter.

From the Canadian standpoint, all these criticisms are repeated, with varying emphasis, by various trades, occupations and classes of people. The irregular length of months is a serious inconvenience to statisticians and business people generally; it complicates payroll and rental problems for the masses; it has many annoying effects in many walks of life. The lack of harmony between week-days and month-dates is an inconvenience to everybody: ask point-blank in any company of people, "On what day of the week will next October 22d fall?" and very few of those questioned will be able to reply without consulting a calendar. As for the wandering Easter, its inconveniences are evident, not only in the church, but in schools, courts, transportation, and many kinds of business.

More than 200 proposals for reforming the calendar have been submitted to the League of Nations. All but two of them have been stamped as impractical by the League experts.

The two projects which remain are being actively promoted in many countries. Both plans are based on the ingenious idea of having a year of 364 days, instead of 365. As for the 365th day, almost everybody agrees that it should be considered an international holiday, to be added —without a week-day name—to the last seven days of the year. The same method would be adopted every fourth year for the extra day of leap-year, which would be placed after the last day of June. Both projects assign to Easter a fixed date in April.

After this much of agreement, the two projects proceed to differ entirely on the remaining details of a revised calendar.

The first plan suggests a year of 13 months, each month containing 4 weeks. The first day of each month would be Sunday.

The regularity of this plan and its perfect coincidence of weeks and months gave it some years ago a certain popularity, especially in the United States. But it is almost abandoned now, because of the fact that a year of 13 months cannot be divided into the convenient quarters and half-years. Also, it imposes extra cost and expense in all monthly accounts and calculations. I would not agree that the payment of interest would necessarily be made more difficult—it is always difficult, as you know—but it would at least be more complicated.

For all these reasons the 13-month proposal should not be recommended, and the alternative plan seems now to have general favor.

This second plan has certain disadvantages, but it is conservative and practical, and I hope that it will be accepted. Its year of 364 days (plus the intercalary Year-End Day) is divided into four equal quarters, each of which contains three months of 31, 30 and 30 days respectively. The first month of each quarter begins on Sunday. Every month of the year has exactly 26 week-days.

If this plan is adopted, it will be as easy to teach the calendar to school children as it is to teach them the multiplication table. They will learn easily the invariable coincidence of dates and days. No longer will wall calendars be necessary—for the perpetual calendar will be indelibly inscribed on everyone's mind. A schoolboy of ten will be able to tell you immediately that the 15th of July is always a Sunday, and the 10th of September also. Labor Day will always fall on September fourth, and schools will open on September 5th. The former date will always be Monday, the latter Tuesday. Christmas will always fall on Monday.

Those who sell almanacs and calendars may lose some business, but the life of everybody will be greatly simplified and regularized. Once the change is made, people will wonder why it was that such a simple and practical reform was not adopted long before.

I trust and believe that public opinion in Canada will be ready, whenever the time comes, to support this reform in the League of Nations.

Theoretically the calendar is comparatively simple. A day corresponds to the rotation of the earth on its axis. A week is an artificial grouping of seven days, handed down from Palestine. A month originally corresponded with a lunation, the moon passing through its four phases in 29½ days. Twelve lunations form a lunar year of 354 days, which is approximately 11¼ days less than the solar year.

Practically, however, certain calendar difficulties arise from the lack of exact divisibility between weeks, months and the sun-year.

Among most primitive peoples, the moon was the standard of time measurement, and the lunar year was generally used until the time of civilized Egypt, Greece and Rome. Egyptians and Greeks were the first to abandon the lunar year. They replaced it with a rational year of 12

months of 30 days each, altogether 360 days, to which were added five supplementary days, bringing up the total to 365.

The early Romans appear to have adopted another solution of the problem. Their year began in March, completing a cycle of true lunar months 354 days later. To bring this total into agreement with the seasonal year, they added every two years a supplementary month of 22 days, called Mercedonius. The adding of this extra month was a charge laid upon the priesthood, but they were so lax in doing it that in Julius Caesar's time the calendar had got far out of step with the seasons.

So the great Caesar undertook a thorough-going job of calendar reform. He appointed the Egyptian astronomer, Sosigenes, to advise him. First of all, it was decreed that hereafter the twelve months of the year should have alternately 31 and 30 days, beginning with March. This gave a total of 366 days, which was exactly right for leap years to be observed quadrennially. In ordinary years, however, the total was reduced to 365 days by dropping the last day of the year, February 30, leaving February with only 29 days.

The reform of Caesar was logical, symmetrical and mathematically sound. But it lasted only a few years before the Emperor Augustus began tinkering with it. He took another day off February and added it to August, in order to lengthen his own name-month, and then he rearranged the lengths of the last four months of the year, leaving the calendar in the irregular plight, as to month-lengths, which exists today.

When Christianity became the religion of the western world, the week-days were superimposed on the Augustan calendar, together with the Christian holidays, particularly Easter.

The calendar of Julius Caesar had one fault which was not revealed until centuries after his death. His adviser Sosigenes had devised a leap-year rule based on a solar year of exactly 365¼ days. But to be precise, the solar year is really 11 minutes shorter than that convenient number. These eleven minutes equal a day at the end of 128 years.

By the end of the 16th Century, the job of determining Easter had become difficult, because the equinox was now falling on the 11th of March, instead of the 21st. Pope Gregory undertook to put the calendar back in its proper relation to the sun, and at the same time to correct Sosigenes' error by an alteration in the leap-year rule. He got the calendar right again by dropping ten days; he repaired the leap-year rule by decreeing that henceforth three leap-years should be omitted in every 400 years. It was further suggested, at this time, that Easter be stabilized on the first or second Sunday in April, but Gregory felt that it would be unwise to undertake too many changes at one time.

The calendar as he reformed it is the one which is almost universally used throughout the civilized world today.

WHEN OLD STYLE BECAME NEW

By Robert Hunt Lyman

Editor of The World Almanac

"THE WAY to resume is to resume," said Secretary of the Treasury John Sherman after the Act of January 14, 1875, was passed providing for the resumption of specie payments on January 1, 1879. The value of the gold dollar dropped steadily and was at par when the United States, "without the least disturbance," returned to the gold standard on that date.

President Roosevelt on January 15 asked Congress to enact a law fixing the gold content of the dollar at between 50 and 60 cents of its value as then fixed by law and ordering the Treasury to take over all the gold in the country, exceeding seven billion dollars, at the new valuation. That Act, duly passed, was signed by the President on January 30. It went into effect, one might say, without a murmur. The country duly adjusted itself — manufacturers and merchants, producers and consumers, importers and exporters, bankers and borrowers—to the new conditions thus created. Statisticians laid aside their old tables of foreign exchange as completed and set up new tables based on the new units of value.

In these transactions, involving tremendous changes, fabulous amounts had required readjustment; the repercussions were world wide; the registration of their effects in new comparative tables was a colossal task. Yet all these records were cared for without jarring dislocations;—as smoothly as a bank clerk writes up the new 3 per cent interest in savings bank passbooks where 4 per cent had previously been paid.

How absurd then to say the adoption of a new World Calendar by the Nations would bring intolerable confusion in its train!

What are the proposed changes in brief? Leap-Year Day (following June 30, Saturday, and preceding July 1, Sunday) and Year-End Day (following December 30, Saturday, and preceding January 1, Sunday) are set up as the two intercalary days which will keep the Solar Year and Civil Year in harmony for many centuries.

The days in half the months are slightly adjusted so that the first months of each quarter all have 31 days each and always begin on Sunday; the second months of each quarter all have 30 days each and all begin with Wednesday and the third months of each quarter all have 30 days also, and all begin on Friday. Each quarter has precisely the same number of Sundays and work days. What a boon to the statistician, to the factory production manager; to everyone who needs inflexible and accurate accounting; and what a boon to the lady who doesn't retain very well and

is always wondering whether the 23rd is Thursday or Friday. It seems simplicity itself to set up and use.

But the number of timorous, of those who are afraid of any thing new, is legion. "People would never stand for any change in the calendar they are used to," they say. Is it true?

The Aediles of Rome in the days of the Republic rearranged the city's complicated system of days of the months and religious festivals as seemed best to them and the people carried on. Julius Caesar took the work of his astronomers and as Pontifex Maximus decreed the Julian calendar, which the Emperor Augustus mixed up a bit later; the people carried on under it for centuries. Its faults became a sore trial to wiser medieval astronomers. To rectify its errors Pope Gregory XIII with all the power of the Head of the Catholic Church, issued a bull on February 24, 1582, abolishing the use of the old Julian calendar and substituting a new one to bring the date of the vernal equinox to the place where it was when the Council of Nicaea in 325 had set the seal of the Church on the calendar. He bade the faithful under his ecclesiastical jurisdiction to drop the ten days following the feast of St. Francis, whereby the 5th of October, 1582, became the 15th.

What happened? The new Gregorian calendar replaced the old Julian calendar in Italy, Spain, and Portugal the same day as in Rome, in France in December and in the Catholic States of Germany in the following year. Switzerland adopted it in 1583 and 1584; and Hungary in 1587. The Protestant States of Germany, however, clung to the Julian calendar until 1700, when it was decreed by the Diet of Regensburg that the New Style and the Gregorian calendar should be adopted. An attempt to use other astronomical calculations thought to be more accurate proved deceptive and was attended by serious inconveniences. In 1774 at the instance of Frederick II the Great, King of Prussia, the makeshift was abandoned and all Germany fell in line for the New Style calendar.

England under the rule of the Protestant Queen Elizabeth was unmoved by a proposition emanating from the Pope of Rome. As time went on and communications, commercial, political and social, with the Continent steadily bettered, the difference in the calendars became increasingly annoying. Even the beginnings of the year were different. On the continent the new year began with January 1 as set by Julius Caesar in 45 B. C.; so, too, from 1600, in Scotland by act of the Privy Council. In England since 1155 it had begun with the feast of the Annunciation, March 25. All outside dates had to be recalculated whenever used and expressed. Thus to avoid ambiguity the date of the death of Queen Elizabeth was set forth thus $\frac{\text{24 March,}}{\text{3 April}}$ 1602/3. The historian today will give the date of her death as March 24, 1603. It was a nuisance, and Lord

Chesterfield had little difficulty in getting through Parliament the Act (24 King George II 1751) which brought Great Britain and the British Colonies into line with the other Nations using the Gregorian calendar.

The divergence from Julian calendar (Old Style) had become eleven days. So the Act provided that in the year 1752 the eleven days after September 2 be dropped, September 14 following it immediately. Sweden followed suit the next year.

Let us see how the adoption was made in the American Colonies. The Almanacs for these years tell us. Benjamin Franklin, who as Richard Saunders, Philom., was the editor of *Poor Richard improved,* put the Act into effect at once and *Poor Richard* for 1752 carried correctly the entire calendar making the change from Old Style to New Style. The 3rd to the 13th days of September inclusive were dropped but, for the convenience of the users, the Old Style numberings for the days after the 2nd of September were carried in an added column on the right. The month read:

Sept.		*O. S.*
1	Tuesday	..
2	Wednesday	..
14	Thursday	3
15	Friday	4
and so on to		
30	Saturday	19

December 1st was Friday corresponding to November 20th O. S. and the year ended with the 31st, Sunday, corresponding to December 20th O. S. So with all the calendars in New Style the year 1753 began with January 1st, Monday, corresponding to December 31st O. S.

Franklin had the great advantage over other Almanac makers of owning his own printing plant and held open his forms until the Act of Parliament came to hand. In this *Poor Richard* for 1752 he devoted his entire preface of three pages in agate to a careful exposition of the astronomical reasons for the change to the New Style calendar and, with a journalistic zeal that should have won him the Pulitzer Prize Award of that day, he printed the Act in full beginning with what space was left beside the calendar for January and ending on the page for December. All this space was usually, and perhaps better filled, with homely wisdom and adages that stick in the American mind. However, Franklin was thrifty and his frugal soul doubtless stored them away for further polishing and use in the years to come.

So in *Poor Richard* for 1753 Franklin had only this to say in his address to *"Courteous Reader":*

"You will find this Almanack in my former Method only conformable to the *New Stile* established by the Act of Parliament which I gave you in my last at length, the new Act since made for amendment of that first Act,

not affecting us in the least, being intended only to regulate some Corporation Matters in *England,* before unprovided for. I have only added a column on the Second Page of each Month, containing the Days of the *Old Stile* opposite to their corresponding days in the *New,* which may in many Cases be of Use."

Nathaniel Ames was caught. Apparently his calendar of months was set up and he could not get his printer to reset it without great expense. So he carried on the second page of his Almanack for 1752 this note:

"N. B. When this Almanack was sent to Press, I had no certain account of the Act of Parliament for reducing the Year to the New Stile."

This Almanack carries the complete year therefore in the Old Style with full 30 days for September beginning with September 1 (Tuesday), and ending September 30 (Wednesday) ; Therefore December 1 was Tuesday and December 31 was Thursday.

Ames had in consequence to begin his calendar for 1753 by starting January 1 with Monday. In this almanac for 1753 he says:

"Since this is the Second Year corrected to *Solar* Time and general date of all Europe, and almost all the Almanack-Writers for the last Year on their several Performances, gave some account of this Matter; I should have only conformed to the Act of Parliament without saying anything further. But for the sake of many that take my Almanack, and have not seen, or heard what has been said by others, I shall attempt to give them the Reasons of the Alteration briefly as I can. —The main Intention of striking off the Eleven Days between the 2nd and 14th of September, A. D. 1752, is to produce an Uniformity in the Computation of Time through the christian Part of the World: The Reasons given by the Government at Home for this Alteration in the Preamble of their Act of Parliament, are as follow, viz.

"1. Whereas the (Julian) Year began on the 25th day of March differ'd from the Legal Method of Computation in *Scotland,* and from the Usage of other Nations, which occasion'd frequent Mistakes in the Dates of Deeds and other writings, etc.

"2. That the Spring Equinox at the Council of *Nice* in the Year of our Lord 325, happened on the 21st day of *March* now happens on the 9th or 10th of the same Month, and the error is still increasing; and if not remedied, would in Process of Time occasion the several Equinoxes and Solstices to fall at very different Times in the civil Year from what they formerly did, which might tend to mislead Persons Ignorant of the said Alteration.

"3. That other Nations of Europe have received and established a Method of correcting the Calendar, so as the Equinoxes and Solstices may fall as the same nominal Days on which they happened at the said Council.

"4. That Uniformity in this Matter will be of Convenience to Merchants and other Persons corresponding with other Nations and Countries. *For these Reasons among other*

"*It is enacted,* That the Year henceforward shall begin on the First Day of *January:* That every fourth Hundred Year is to consist of 366 Days as is usual in the *Bissextile* or Leap Year; but all other whole Hundred Years of 365 Days only; the Years between which Whole Hundreds to be common and *Bissextile* as formerly."

The editor then explains how it came about that "the Time by Account is forward of that by the Sun 10*d.* 23*h.* 43*m.* Therefore 11 Days was left out of September." He adds: "We are not to forget our Birth-Days:—Nor does this Act of

Parliament anticipate the Payment of Debts, etc.—Therefore I have in the 4th Column of the Almanack given you the Days of the Month according to Old Stile. —And as my last Year's Almanack was carried out 11 Days too long, this Year begins the 21st Day of *December* Old Stile. Which must evermore be accounted the first Day of January."

Ames, publishing his Almanack in Boston, did not give the dates of the Church of England (or Catholic) feasts and fasts.

Job Shepherd, Philom., had likewise been unfortunate and explained himself in *Poor Job* for 1753 on Page 2 thus: *"Courteous Reader:* This is my fourth calculation wherein I have taken particular care to correct agreeable to the late Act of Parliament and the New-Calendar, for regulating our Stile, which has erred eleven Days from the true Motion of the Sun, since the great *Nicene* Council; but does now agree with the other neighbouring Christian Kingdoms." He did not think it necessary, like Ames, to carry the Old Stile dates.

Roger Sherman in his Almanack for 1753 (New London, Ct.) considered as well his Church of England readers and in a brief note on Page 2 explained the New Style thus:

"This Year 1753 (being according to the act of Parliament) reduced to the new-Style, the 1st of *Jan.* is that which according to old Style would have been accounted the 21st day of *Decem.* 1752. And in the following *Almanack*, the stated Festivals & Fasts of the Church of *England* & the time of setting of Courts, etc., are set against the same nominal days as in the old style altho' as to the true or real time they are 11 days sooner which is according to the direction in said act of Parliament; & the moveable Feasts & Fasts, are calculated according to the direction of the Said Act. The times when His present Majesty K *George* II was Born, began to Reign, was Crown'd, & the Birth of the Princes &c are not set against the same nominal days as in the old style but at their true time according to new-Style."

He gave the King's dates thus: "K. George began to Reign June 22, 1737, Crown'd Oct. 22, 1737, Born Nov. 9, 1683."

I find no authority for the statement that the Virginia House of Burgesses in bitterness against all things having an English political taint refused before the Revolution to use the New Style calendar. On the contrary I have a tattered browned Virginia Almanac for 1758, printed in Williamsburg, Va., by William Hunter, which carries the New Style.

It is apparent that no inconvenience had resulted. The New Style was accepted. Whatever grumbling there may have been had petered out before the next year's Almanacs came on. Russia adopted the Gregorian calendar in 1923, and Turkey in 1926. The whole world is now closely knit together. In commerce, finance and economics uniformity and recognized harmonious standards are more important than ever before.

It is not unreasonable to anticipate an equally smooth and sympathetic universal adoption of the new World Calendar if, as and when endorsed by the League of Nations and adopted for each Nation by Congress and Cortes, Parliament and Chamber of Deputies, Reichstag and Dail.

John Bunyan records the fear of Christian that he could never reach the House Beautiful because he saw lions in the way. When Watchful the Porter let him up to the dread monsters, Christian found that they were chained and harmless; so he went on and won the goal.

AS AN ARTIST SEES IT

By LEVON WEST

Eminent American Etcher

IT IS because of our disordered present-day calendar system that we have to content ourselves with the ghastly products of the chromo-lithographer, the printers' nightmares, that now hang on almost every wall. No worthy talent can be expended on their design, because no worthy talent cares to pour out its thought on so transitory a matter.

Hoping that some genius might have contrived a more or less satisfactory permanent calendar, I searched the Public Library. The only two possibilities in the catalogue appeared to be a "Permanent Calendar" produced by the American Typefounders, and some Tiffany Calendars. The first proved to be printed on celluloid, and was only permanent in that 1933 was identical with 1960-something-or-other, and so on. It was hardly beautiful but was perhaps a more or less handy object for printers all over the country who could use it to fill the corner grocer's order for a thousand calendars complete with Indian Maidens or Kittens in a Basket.

The mouse which Tiffany had conceived proved to be a number of small leather notebooks with calendars in them. A handful of these dating from 1900 on, were carefully preserved by the guardians of the Public Library in a broken pasteboard box insecurely tied with string.

If the length of the hour and day changed from year to year, we would all of us manage to get along with cheap tin watches. There would be no diamond watches, no clock towers, no skillfully and beautifully constructed clocks. If our calendar system could be standardized and simplified we would make possible the design of calendars as beautiful and as permanent and enduring as are our present clocks.

If The World Calendar is adopted, shifting of days and dates from year to year will be avoided. The same day of the week will fall on the same date, each quarter will begin on the same day, all quarters will be similar.

I can imagine bronze plaques of this perpetual calendar, made by the best medal or coin designers of the world, hanging over or standing on my desk. These could be made either to embrace the entire year or could be made in sets of twelve, month by month, to be repeated year after year.

As an etcher I can imagine making a set myself. Fine lines and soft shading on fine paper, a small calendar in the center, a wide border with mythological figures, pure ornament, or something illustrative of the season. I can imagine a permanent calendar, cut in stone, in a college auditorium or a public hall. I can imagine one in the form of a mural painting.

The Calendar Stone, the Mayan Stelae, the Pyramids, the Calendar Tower of the Vatican, these are but a few of the monumental calendars that

artists of the past have conceived. These great examples point to what can be done in our buildings, libraries, schools and homes when we make it possible for the artist of the future to use his talents on similar monuments by adopting a common-sense calendar system.

In addition The World Calendar appeals to the artist because of the rhythm, harmony and balance of its structure. It is beautiful and pleasing in its symmetry. It appeals to the eye of the artist and to his love of a balanced and ordered variety. Its year divides into twelve, not into the inharmonious thirteen which is proposed by another group of reformers. It divides the year conveniently into quarters. Each quarter is exactly equal and has the same number of weeks, each of them complete. Each month has the same number of weekdays.

The quarterly division of the year which is preserved in The World Calendar corresponds to the four seasons and is satisfying to the artist, where the other proposed calendar appears awkward and unbalanced.

The many varieties of calendar the world has known, some of them well known, some of them more obscure, illustrate the dodges and makeshifts that artists and designers had to employ, and at the same time the unsatisfactory nature of their final product from a practical point of view, because of the complicated and shifting nature of all primitive calendar systems.

An unusual example of one of these primitive calendars was found in 1732. In repairing the gables of some buildings which had been a part of an old chateau in Brittany a strange wood panel was discovered. It was carved on both sides with characters so extraordinary that all who saw it immediately concluded that it must be a "cedule diabolique" and that it should at once be destroyed by consigning it to the flames. Fortunately, however, the seigneur of the district saved the carving from this fate and sent it to a learned society which recognized it as an early calendar.

It was dated 1468. Two figures were carved at the top of the panel, one of them wearing a sort of crown. These must have been intended to represent the seigneur of the chateau and his wife. The calendar was probably a present from the artist to the chatelaine and was made by him especially to commemorate her marriage.

The calendar is elaborately carved with symbols to indicate the months and principal holidays. It however omits all movable feasts, such as Easter, for otherwise it would have had to be renewed each year.

Before the invention of printing, calendars of this kind were common, particularly in the Scandinavian countries. They consisted of a panel of wood, scored in one way or another and more or less ornamented with carving. Such mural calendars were in use up to the beginning of the nineteenth century in several countries, notably Sweden.

These calendars were meant to be permanently hung on a wall. Portable calendars were also made and used. These took the form of a stick

or a tablet which could be carried in the pocket. There were also larger "stick" calendars which could be kept near the fireplace.

The trouble with all these calendars from the artistic point of view was due to the constant shifting of days and dates under our present calendar system. The artist had to decide either to omit from his calendar the days of the week and all movable feast days, in which case his calendar would be of little value; or to content himself with the hastier and cruder work associated with a thing of transitory value, a thing whose utmost span of life could not outlast the year.

Even the elaborately constructed calendar clock described by a traveler of the twelfth century suffered from these defects. "The Ishmaelites have at Damascus," he writes, "a mosque called Ctoman-Daminasee. There is no building like it in the world. In it is a wall of glass constructed by magic arts. There are in this wall as many holes as there are days in the year. The sun, descending by 12 degrees, according to the number of hours of the day, shines each day through one of these holes."

A great deal of art and ingenuity must have been poured out on this unusual clock. Unfortunately, because of a shifting and unreliable calendar it must have been necessary to omit from it much information without which it could be nothing more than a rather unusually spectacular toy.

Among the primitive calendar systems which were the cause of such elaborate and unsatisfactory calendars, we must with regret include our own, which is almost as imperfect as any of those I have described.

The adoption of a perpetual calendar, rhythmic and harmonious in nature, as is The World Calendar, will enable artists to replace such ingenious toys with calendars that are beautiful, useful and enduring in form.

SWISS URGE REVISION

CLARIFYING the European viewpoint on calendar reform comes a statement from E. Hofmeister, a distinguished member of the Swiss National Committee on Calendar Reform, who has been a student of the subject for many years.

"In our little country and with our democratic people," says Mr. Hofmeister, "the decisive question is this: Which type of calendar reform will be suitable and acceptable to the public at large? And the answer will always be, The 12-month plan —because the 13-month proposal would upset old-established customs and habits.

"But the defenders of the public-at-large are few, when compared with the number and energy of those who advocate the interests of a small minority of special groups. There is no reason why the general public should accept a 13-month plan proposed by a minority for reasons of accounting and statistics. Supporters of a 13-month plan may use such a calendar supplementarily for their specific purposes, as they have done hitherto, side-by-side with the use of a revised 12-month calendar. Governments should give their support, I think, to the demands of the public-at-large, rather than to those of a specialized minority which can easily attain its aim in another way."

Mr. Hofmeister's committee, acting under a mandate from the government, found by questionnaire that 90 per cent of Swiss opinion was favorable to calendar revision, and that 89 per cent desired the 12-month equal-quarter proposal.

ANALYSIS OF 12-MONTH PLAN

By E. K. Eason

Secretary of Irish Committee for Calendar Reform, Dublin

A graduate of Cambridge University, an expert in accounting problems and member of a leading Dublin printing firm, Mr. Eason has for many years been a student of calendar history and a writer on calendar reform. He has published several pamphlets on the subject and has lectured before audiences of varied types. His advocacy of a 12-month equal-quarter calendar, prior to the League of Nations in 1931, had a large influence in shaping the attitude of the delegate of the Irish Free State, who voiced a definite opposition to any 13-month year.

IN analyzing the tremendous advantages offered to the world in the adoption of an equal-quarter 12-month perpetual calendar, it has seemed to me that there are three distinct and separate benefits to be derived, and that this can be made very clear if we graphically divide the proposed new calendar into three "stages," each of which contributes an essential and important element to the new system of time measurement.

But first let us set down, briefly, the defects of the present calendar:

The calendar is not perpetual. It changes each year. The year consists of 52 weeks plus one or two days. Thus the first day of the month falls each year on a different day of the week from the one on which it fell the previous year.

In consequence, the dates of periodic events can never be fixed with precision. For if the day of the month is fixed for periodic events, this day may sometimes fall on a Sunday or general holiday. Each year, therefore, the authorities have to make a special decision, as for instance for the meeting of a tribunal, the convocation of Parliament, the dates of holidays, fairs, markets, administrative assemblies, the fixing of summer time, etc. On the other hand, if a special day is fixed for these events, other difficulties arise, as the date corresponding to this day varies continually from month to month and from year to year. If the calendar were perpetual, the dates of these events could be fixed once for all. They would fall on the same dates as well as on the same days of the week.

Since the various days of the week are not of the same value as regards the volume of trade, and the years and the months do not from year to year include the same number of different individual week-days, there can be no genuine statistical comparison between one year and another, while the various subdivisions of the year itself—the half-years, quarters and months—are likewise incapable of comparison.

Finally, the divisions of the year, the months, quarters and half-years are of unequal length. The months contain from 28 to 31 days. As a

result, the number of days in the quarters are respectively 90, 91, 92 and 92. The first half-year therefore contains three days less than the second.

Now let us turn to the proposed revision of the calendar. If we divide the 12-month equal quarter plan of revision into three parts or "stages", we shall see very clearly how it remedies the defects which we have listed.

I. The first "stage" of the proposed reform consists of taking the last day of the year and telescoping it into the 52d week by calling it a second Saturday. The advantages gained by having the last week of the year contain eight days are:

(a) Fixed agreement between the days of the week and the dates in each successive year.

(b) Fixed days and dates, if desired, for all periodic events, annual meetings, reports, etc.

(c) Exact comparability for any period of any length with its corresponding period in another year.

(d) The abolition of the irregular occurrence of 5 Saturdays or 5 Sundays or other days of the week with individual economic value.

(e) The abolition of non-comparable "odd" days at the ends of corresponding months.

No legal conversion table would be required at this stage of calendar reform, since there is no alteration involved in the existing date system. But one reason why this step alone is insufficient is that in Leap Years the extra day (an international holiday) would fall either on February 29 (between Tuesday, February 28, and Wednesday, March 1), or else at the end of June (between Friday, June 30, and

A Perpetual Calendar. 1st Stage

The LAST WEEK of the year contains eight days

	JANUARY	FEBRUARY	MARCH
S.	1 8 15 22 29	5 12 19 26	5 12 19 26
M.	2 9 16 23 30	6 13 20 27	6 13 20 27
Tu.	3 10 17 24 31	7 14 21 28	7 14 21 28
W.	4 11 18 25	1 8 15 22	1 8 15 22 29
Th.	5 12 19 26	2 9 16 23	2 9 16 23 30
F.	6 13 20 27	3 10 17 24	3 10 17 24 31
S.	7 14 21 28	4 11 18 25	4 11 18 25

	APRIL	MAY	JUNE
S.	2 9 16 23 30	7 14 21 28	4 11 18 25
M.	3 10 17 24	1 8 15 22 29	5 12 19 26
Tu.	4 11 18 25	2 9 16 23 30	6 13 20 27
W.	5 12 19 26	3 10 17 24 31	7 14 21 28
Th.	6 13 20 27	4 11 18 25	1 8 15 22 29
F.	7 14 21 28	5 12 19 26	2 9 16 23 30
S.	1 8 15 22 29	6 13 20 27	3 10 17 24

	JULY	AUGUST	SEPTEMBER
S.	2 9 16 23 30	6 13 20 27	3 10 17 24
M.	3 10 17 24 31	7 14 21 28	4 11 18 25
Tu.	4 11 18 25	1 8 15 22 29	5 12 19 26
W.	5 12 19 26	2 9 16 23 30	6 13 20 27
Th.	6 13 20 27	3 10 17 24 31	7 14 21 28
F.	7 14 21 28	4 11 18 25	1 8 15 22 29
S.	1 8 15 22 29	5 12 19 26	2 9 16 23 30

	OCTOBER	NOVEMBER	DECEMBER
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

Second Saturday (or Year Day) 31

Saturday, July 1). Both of these would be unsatisfactory forms of the second 8-day week, since they put the international holiday in an awkward position in the week.

It is obvious, however, that this first stage of calendar revision has effected a very appreciable advantage over the present calendar, creating a perpetual calendar, so that a given day of the month now falls, year after year, on the same weekday. A genuine statistical comparability has also been established between any two similar periods in successive years.

II. Now for the second series of advantages to be gained from a slight additional adjustment of the calendar. This consists of dropping August 31, and adding February 29. The resulting benefits are as follows:

This step permits the Leap Year holiday (Leap Day) to be at the end of June, a second Saturday, following after Saturday, June 30, and coming before Sunday, July 1.

It also makes each of the four normal quarters of the year equal in length, containing 91 days.

It also stabilizes January 1, April 1, July 1 and October 1 on Sundays, so that the comparisons of periods within the year are closer than in the First Stage.

In converting dates from the old to the new calendar, there are no changes in the six months from September to February, but a difference of one day in the period from March to August inclusive.

But this calendar is incomplete, because in the first six months the week days vary in each month, from 25 to 27. Moreover, while the quarters have been equalized, there are many spots in the calendar where a three months' period, reckoned from a given date, makes 90 or 92 days, instead of the ideal period of 91 days (exactly 13 weeks).

A Perpetual Calendar. 2nd Stage

AUGUST 31 IS DROPPED

FEBRUARY 29 IS INTRODUCED

	JANUARY	FEBRUARY	MARCH
S.	1 8 15 22 29	5 12 19 26	4 11 18 25
M.	2 9 16 23 30	6 13 20 27	5 12 19 26
Tu.	3 10 17 24 31	7 14 21 28	6 13 20 27
W.	4 11 18 25	1 8 15 22 29	7 14 21 28
Th.	5 12 19 26	2 9 16 23	1 8 15 22 29
F.	6 13 20 27	3 10 17 24	2 9 16 23 30
S.	7 14 21 28	4 11 18 25	3 10 17 24 31

	APRIL	MAY	JUNE
S.	1 8 15 22 29	6 13 20 27	3 10 17 24
M.	2 9 16 23 30	7 14 21 28	4 11 18 25
Tu.	3 10 17 24	1 8 15 22 29	5 12 19 26
W.	4 11 18 25	2 9 16 23 30	6 13 20 27
Th.	5 12 19 26	3 10 17 24 31	7 14 21 28
F.	6 13 20 27	4 11 18 25	1 8 15 22 29
S.	7 14 21 28	5 12 19 26	2 9 16 23 30

	JULY	AUGUST	SEPTEMBER
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

	OCTOBER	NOVEMBER	DECEMBER
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

Second Saturday (or Year Day) 31

III. In the third stage, our program of calendar reform becomes complete. This stage deals with minor corrections within the first and second quarters. In the first quarter March 31 is dropped and February 30 is added. In the second quarter May 31 is dropped and April 31 is added.

By this means every month is given exactly 26 weekdays, the 31-day months all containing five Sundays.

This step makes every quarter in the year (except for the intercalary day or days) exactly similar to and comparable with each other within the year, both as a whole and in respect to any of their corresponding parts. For example, February 7 is Tuesday; May 7 is Tuesday; August 7 is Tuesday, and November 7 is Tuesday, and each of these dates is exactly 91 days from the next.

This step makes possible fixed quarterly dates and days of the week for all quarterly meetings or events.

The legal conversion table for this completed equal-quarter calendar can be compressed into a very simple form, so that any dates in the old calendar can be defined in terms of dates in the new calendar, and vice versa. The conversion rules would be as follows: If the new date be given, add the following key number. If the old date be given, subtract the key number.

Key numbers: March, 2 days; April, 1 day; May, 2 days; June, 1 day; July, 1 day; August, 1 day. There would be no change in the dates from September 1 to February 28 inclusive.

A comparative table, showing the advantages gained by the various stages of calendar reform, will indicate why it is necessary to carry the reform to the third stage in order to reap the fullest benefits. Such a table is a very clear demonstration of the merits of The World

A Perpetual Calendar. 3rd Stage

MARCH 31 IS DROPPED; FEBRUARY 30 IS INTRODUCED
MAY 31 IS DROPPED; APRIL 31 IS INTRODUCED

	JANUARY	FEBRUARY	MARCH
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

	APRIL	MAY	JUNE
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

	JULY	AUGUST	SEPTEMBER
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

	OCTOBER	NOVEMBER	DECEMBER
S.	1 8 15 22 29	5 12 19 26	3 10 17 24
M.	2 9 16 23 30	6 13 20 27	4 11 18 25
Tu.	3 10 17 24 31	7 14 21 28	5 12 19 26
W.	4 11 18 25	1 8 15 22 29	6 13 20 27
Th.	5 12 19 26	2 9 16 23 30	7 14 21 28
F.	6 13 20 27	3 10 17 24	1 8 15 22 29
S.	7 14 21 28	4 11 18 25	2 9 16 23 30

Second Saturday (or Year Day) 31

Calendar. The table shows the number of days in *any quarter,* commencing from any date (supplementary days being excluded):

Commencing at a date in	1st Stage	2nd Stage	3rd Stage
Jan. ..	90	91	91
Feb. ..	89	90	91
March ..	92	92	91
April ..	91	91	91
May ..	92	92	91
June ..	92	91	91
July ..	92	91	91
Aug. ..	92	91	91
Sept. ..	91	91	91
Oct. ..	91	91	91
Nov. ..	91	91	91
Dec. ..	89	90	91

The principal hindrance to a general public understanding and acceptance of calendar reform appears to be the difficulty of comprehending the exact significance and meaning of the intercalary days, Year-end Day and Leap-year Day. But the essential principles of this intercalation are already practiced in our present method of inserting a quadrennial Leap-year Day on February 29.

Our present leap-year rule dates back to Julius Cæsar (with the modification introduced by Pope Gregory). Cæsar placed his intercalated leap-year day at the end of the year,—namely, the end of February. And here at the end of February it has stubbornly remained, despite the fact that the year-end has long since been shifted, universally to the end of December.

Ancient Egypt had perennial calendar difficulties because it gave the year 365 days and did not make any leap-year intercalation. It permitted the year to shift backward by one day every four years, until in approximately 1460 years the calendar had shifted clear around the whole cycle of the seasons. The reason for the Egyptian failure to recognize the correct length of the year was not ignorance, but a mixture of professional jealousy, trade secrecy and autocratic contempt for the intelligence of the common people. It is interesting to read the oath which the kings of Egypt took over 3000 years ago, that they would not "intercalate any month or day, but would keep the sacred year of 365 days exactly as instituted in ancient times."

Among modern calendar reformers, there has been some difference of opinion as to exactly where the intercalary Year-end Day should be placed. The League of Nations, after listening patiently to all sides of the question, decided that the weight of opinion was in favor of putting it

at the end of December. According to the same authority, Leap-year Day is best placed in mid-summer, at the end of June.

Recently, in England, the suggestion has been made afresh that Year-end Day might perhaps be placed in mid-summer, and Leap-Year Day at the end of the year. However, there are certain obvious drawbacks to this plan, which no doubt have already been taken into consideration by the League of Nations. These drawbacks might be summarized as follows:

(1) Any proposed reform should cause the least possible disturbance to the ordinary man in the street. A midsummer intercalation every year would increase by one day the conversion dates of a large number of days in the year.

(2) The additional holiday, coming in midsummer, would be more difficult to adjust into the working week than when it comes in a year-end period which is already devoted very largely to holiday festivities and business activities are rather slack.

(3) Uniformity of all schemes of calendar reform, to the greatest possible degree, is desirable if there is a sincere wish to achieve practical results. On the placing of the intercalary days, almost all calendar reformers are now agreed. Their unanimity on this particular point in their program is a promise of ultimate success, at least in the primary matter of obtaining a perpetual calendar.

(4) In the new calendar, calculations of the number of days between any two dates in the year are much simplified if the intercalary day is placed at the end of the year.

ERRORS IN UTILITY STATISTICS

By F. J. McConnel

Pacific Gas and Electric Company

IN the utility business, the question of calendar irregularities is becoming more serious since the recently adopted policy in Alabama and elsewhere of basing consumers' bills on a comparison with the bill in the same month of the previous year. This is a unique idea in progressive rate making, and may be of great importance to the electrical industry. Its successful application may be jeopardized by the mere fact that the irregularity of the present calendar makes such comparisons innaccurate and meaningless within a limit of five per cent (plus or minus) variation.

It is the practice in utility statistics to compare the sales and revenue received during one calendar month with the corresponding month of the previous year. Sales and revenue are based on meter readings, made continuously throughout the month, except on Sundays and holidays, and in some cases Saturdays. The period of service is from the reading date in one month to the reading date in the next month. The peculiar arrangement of Sundays and holidays in any one month is always different from the corresponding month in the previous year. Hence the billing periods of the weighted average of all consumers do not correspond, resulting in variations as great as five per cent. This is a serious error, and leads to erroneous conclusions as to the condition of the system. The extent of this error is not generally realized.

As to calendar reform, I prefer the 12-month equal-quarter plan, emphatically. The number 12 is factorable. The 13-month year has many serious disadvantages in addition to the non-factorable feature, which alone condemns it.

GERMANY'S NEW VIEWPOINT

By Erland Echlin

Foreign Press Correspondent in Germany

IT was hardly to be supposed that in a nation which proposes to give to its people "an entirely new conception of life," reform of the Calendar would be overlooked. The variable Easter is as much a nuisance for Germans as it is for other races; and as to the other phases of calendar reform, German industrialists are as keen to simplify their calculations with a reasonably stable calendar as are business men of other countries. But it must be remembered that Germany, for all her industrial development, is still an agricultural nation and, with far more farmers than the United States of America, she must necessarily turn to a calendar based on the seasons of the year.

Labor has been organized into one huge association which includes everyone from humblest employee to owner. Peasants, land-owners small and large, and allied industries are grouped in another association. Politically the Reich is a single unit. Only the Church—both Protestant and Catholic—is not completely in time with the rhythm of the new movement. These formations, visible only after a year, developed gradually out of the researches of the experts behind the scenes—a band of keen, informed National-Socialists. Divided into sections, under each comes a particular subject; and to the interest of calendar-reformers everywhere, one of these sections is charged with the duty of studying the various plans for conveniently stabilizing the methods of measuring time. When the calendar is eventually changed it is upon the recommendations of these men that the nation will act.

Professor Dr. Ernst Wageman (Instituits für Konjunkturforschunt, or Investigation of Economic Affairs) leads the committee for the study of the reform of the calendar. The former chairman, Dr. Hans Platzer, has been promoted to a higher office in the Reich's Statistical Bureau but still maintains an active interest in the deliberations of the committee. At the moment of writing their purpose is not to express definite views in favor of any particular change but to select from them all the form that is most suitable to the new Germany.

To get right down to facts: out of the three-dozen proposals advanced only two occupy their serious attention—the 13-month and the 12-month equal-season plans. One firm, of American origin, has incorporated the 13-month scheme into its accounting system with satisfactory results. It is, however, a company which deals almost exclusively with urban populations, and therefore other industries embracing both agricultural, rural

and small town workers do not feel they would get the same results.

It is not too much to say that the 12-month equal-quarter plan is the more favored of the two. Involving as it does a minimum of change, it seems to satisfy city and countryside alike. At the Berlin Chamber of Commerce, in the absence of the President, Dr. Frowein, I had a long chat with Dr. Herrecke, its secretary, who expressed the opinion that any radical change to an unequal and indivisible number of months was unlikely. The 700 small Chambers which he represents form an accurate gauge of the eventual trend of calendar-reform. Dr. Frowein's views on the subject are of course well known, as he is a member of the Foreign Advisory Committee of the World Calendar Association, the most active international opponent of the 13-month plan.

Complicating one phase of reform, yet simplifying another, comes National-Socialism with its bands, banners and speeches. Agricultural Germany must return to the old simple forms; revert to the names formerly used to designate the months. Twelve in number, the addition of an extra month would be unthinkable.

When the plan to rename the months first became known abroad, an exclamation was immediately heard that National-Socialism meant, even in its calendar, a return to paganism. But on examination the new names of the German Calendar revealed an even less ferocious nomenclature than that which is generally used today. Omitted were March, or Mars, the War-God, and August, that tribute to Roman imperialism.

Instead, the new names, referring apparently purely to the cycle of Nature and Christianity, were revealed as:

January—HARTUNG	July—HEUET
February—HORNUNG	August—ERNTING
March—LENZMOND	September—SCHEIDING
April—OSTERMOND	October—GELBHART
May—WONNEMOND	November—NEBELUNG
June—BRACHET	December—CHRISTMOND

Now Hartung means the strong or hard month of cold and ice; Hornung is the time when animals get their new horns. Lenzmond, or Lenzing, indicates the first sign of Spring—the birds return and leaves begin to appear. In Ostermond comes Easter, fortunately coinciding with the fixed Easter of the 12-month equal-quarter plan. Wonnemond, a time of joy and hope for both northern hemispheres, is "Gladness" month.

By June all things are growing and this is designated in the revival of old names such as Brachet, Brachmond or Linding. Then comes the first reaping of the field crops of grass and hay, Heuet or Heumond. The greatest of all months is that of the general harvest, or Ernting. Between summer and fall is Scheiding, the boundary-line month. Leaves and foliage change color from green to yellow and brown in the thirty

days of Gelbhart. Autumn with its cold and rain is expressed in Nebelung, the mist-month. Closing the year is Christmond or Christ-month, so designated, instead of the even earlier Julmond, since the Middle Ages.

There is something attractive about this return to an ancient form. For National-Socialist Germany it is full of deep meaning. Having offended certain great sections of the commercial world and having reached the verge of a gigantic economic experiment, the new Reich turns its eyes inward concentrating on its own resources, particularly food supplies. Its fifteen million farmers gladly revert to the names based primarily on their life on the land.

The 12-month equal-quarter plan makes no changes in their names, days or dates. The seasons so essential to farmers remain.

It is not improbable that within the year the government committee studying calendar reform will be asked to take another step forward and outline the most acceptable new form of time division for later adoption.

Alert to the needs of the moment, the Rational Calendar Association of England has had its excellent booklet translated into German for distribution in the Reich. Under Dr. Oskar Aust, as honorary secretary (Berlin: Britz, Onkel-Braesigstr 70), a nuclear group in Berlin will form a centre for German inquiries on the subject. New life will be injected into the 30-year old calendar-reform organization of the "World-League" of Kiel, an association of a thousand members with parallel aims.

The biggest of European countries, Germany when she moves will carry with her Austria, Switzerland, West Poland, Danzig and Lettland.

The 13-month calendar proposal has had fair consideration in Germany, but in addition to the ordinary opposition to its unwieldiness and the drastic changes necessary for its operation, a new element works against it. Germany in 1934 follows a single leader whose personal influence is far beyond that of even parliaments elsewhere. When Hitler, in 1919, became a member of the German Workers' Party six men already sat around the board. He joined as Number Seven and his membership card, with its traditional implication of luck, he carries today. It cannot be said that the Chancellor is superstitious, but he has a "healthy respect" for numbers. And one that he does not like is "thirteen."

National-Socialism has a tendency to simplify everything it touches. For over a year it has toiled night and day on its bigger problems with measurable results. When calendar reform appears before it there is no reason to believe that the 12-month equal-quarter plan will not be received with the popularity its simplicity deserves.

BRITAIN LOOKS AT TIME

By C. DAVID STELLING

Secretary of the Rational Calendar Association, London

SUCH a project as the reform of the calendar does not lend itself to sensational treatment or rhetorical appeal. It is a topic rather for the council chamber than for the market-place. But commonsense consideration of the matter leads to the conclusion that, in a world which is inevitably becoming more and more systematized, it is impossible to dispense with accurate standards of measurement, whether they be standards of time or weight or value.

Many of the world's troubles today are due to the failure of our standards of value, and though I do not endorse the extravagant claims made by some propagandists that calendar reform will save the nations hundreds of millions of pounds annually, I do not hesitate to say that an increasing amount of time and money is wasted every year by reason of the inconvenience and irregularities of our present calendar.

Calendar reform is a live question. Our private lives and our business arrangements alike are complicated and disorganized by the inefficiency of our existing time-system. There is nothing sacrosanct about the calendar; it has been amended before by dictators and popes; it can be revised again in accordance with the needs of a scientific age. The international machinery for reform is ready, and the beneficial work should not be impeded by the apathy of unprogressive opinion or by the extravagance of cranks.

Readers of this article, who are interested in the question it presents, can serve the cause of reform by enrolling as members of one of the national organizations or groups in England, America, France, Germany, Switzerland, Belgium and Greece; by studying the arguments put forward and discussing them with their friends; by initiating discussions in any clubs, study circles, or trade or professional organizations, of which they may be members; or by writing articles or letters for the press on any aspect of the subject that interests them.

The superficial advantages of the 13-month scheme are obvious, but they would need to be far more substantial than they are to justify the violent departure from existing practice which a 13-month year would involve. With a 13-month calendar a certain arithmetical uniformity would be obtained; every month for all time would begin on a Sunday and end 28 days later on a Saturday. But the introduction of such a system would entail many grave disadvantages, of which the following are the most obvious: (1) The number 13, besides being unpopular, is unmanageable, difficult to divide by, impossible to divide into; (2) The adoption of the scheme would

involve very violent changes in our present habits and a break with time-honored traditions; (3) Neither the quarters nor the half-years would contain a whole number of months—a quarter would consist of 3¼ months; (4) Thirteen monthly balancings, stocktaking and payments instead of twelve would increase trouble and complicate business; (5) The establishment of any comparative statistics relating to the pre-reform era and the post-reform era would be extremely difficult, if not indeed impossible.

It may be noted that the uniformity of months provided by arithmetical equality is from the statistical point of view—which is ultimately very important—more apparent than real. Statisticians are moved by the consideration that the month is too long a period for exact statistics, preferring the week, and too short for drawing conclusions of any value. Furthermore, owing to variations of season and circumstances, they generally refrain from making comparisons between different months of the same year.

Some guidance as to the scientific aspects of this matter was given a few years ago by the Royal Statistical Society when it academically debated "The Week or the Month as an Intermediate Time-Unit." The discussions showed that a system of reform involving 13 months was not likely to appeal to statisticians and that the preferable reform from this point of view was equalization of the quarters.

The 12-month year of equal quarters is subject to none of these objections. In practice little effort will be required to memorize the 31-30-30 sequence of the lengths of the months or the Sunday-Wednesday-Friday sequence of initial days. It will be easy enough to acquire an automatic facility in determining all day-dates.

All the real advantages that can be claimed for the 13-month calendar are secured in a rational calendar of 12 months of equal quarters, which "tidies up" the present calendar with a minimum disturbance of the existing system. Actually the only changes are, that April gains one day and February two at the expense of March, May and August, which lose one day each, and the last day of December has a special name and is a general holiday.

The calendar is made perpetual. Every quarter, every half-year and every year begin on the same day. Any same date in different years thus falls on the same day. Every quarter has the same number of days, every month has the same number of week-days. The essentials of uniformity are provided without the excessive regularity of the "Sol" system and without the wholly needless dislocation caused by the insertion of a new month.

Some of the practical effects which would result from the introduction of a rational calendar of this kind may be set out in greater detail:

1. *For Business Purposes.* (*a*) Fixtures which have now to be varied, according to the day of the week, can be standardized, *e.g.*, a market or fair which is held on the first Thursday in September will always fall on Sept.

7th. (*b*) Every month will contain 26 week-days and statistics between one year and another will be strictly comparable whether on the basis of months, quarters or half-years. (*c*) With equal quarters and half-years calculations of interest, etc., and, indeed, all departments of bookkeeping will be simplified for bankers and accountants.

2. *For Social Purposes.* (*a*) All annual social fixtures will have their own permanent dates. Thus, the Royal Academy will always open on Monday, May 6th; August Bank Holiday will always fall on August 6th; and Summer Time will end on October 8th. (*b*) Birthdays, wedding anniversaries and other anniversaries will always fall on the same day of the week.

3. *For General Purposes.* (*a*) Law terms, university terms and school terms can be standardized and all the numerous fixtures which depend on these terms can be permanently fixed. (*b*) Railway and other time-tables, which have now to be modified every year, could be permanently stabilized; while those relating to long journeys on steamships, continental trains and airways would be simplified. (*c*) Comparative statistics on health matters, and all other matters affecting public affairs, will be uniform as between the same months in different years, whereas at present, for example, traffic statistics between July and July may be non-comparable because the two months have a different number of week-ends.

In England, it is of good augury that the Parliamentary Bill of 1914, which contained the principles of the rational calendar was introduced by Robert Pearce, M.P., one of the parents of "Summer Time." Summer time was, for many years, regarded as an amiable fad, until the circumstances of the War made it a desirable innovation, and it has now become an indispensable institution.

There is little doubt that sooner or later England will accept calendar reform in just the same way as she accepted Summer Time, and when a rational calendar has been in operation for a few months, we shall wonder why we were so long in adopting so simple a method of escape from an obsolete and inconvenient system. We took the lead with daylight saving and the world followed us. There is no reason why we should not give a lead to the world in the matter of the calendar. Actually, we have gone further than any other nation in the direction of reform. Bills have been introduced into Parliament, and Lord Desborough and his supporters in the House of Commons have succeeded in placing the Easter Act, 1928, on the Statute Book.

A practical expression of British opinion was given in the replies to the referendum organized by the Parliamentary Committee on Calendar Reform in 1931. Of the replies received, 82 per cent favored reform of the calendar in some way or other. Of those in favor of reform 83.5 per cent preferred a 12-month and 13 per cent a 13-month year.

The London Chamber of Commerce, the National Chamber of Trade, and

the Trades Union Congress are among the influential organizations which have passed resolutions strongly urging the need of Calendar Reform.

The Rational Calendar Association was formed in the spring of 1932 to enlighten public opinion on the subject of calendar reform, to co-ordinate the existing efforts that were being made to bring it about and to keep in touch with similar movements in other countries and with the League of Nations. The particular aims of the Association are: "1. To secure a stabilized Easter on the lines of the Easter Act, 1928; 2. To inform public opinion on the defects of the Gregorian Calendar which we now use; 3. To bring about the adoption of a rational perpetual twelve-months calendar of equal quarters; 4. To counteract the effects of the world-wide propaganda for a 13-month year."

The Association has lost no opportunity of calling the attention of the secular and ecclesiastical authorities and the public through the press to the anomalies of our calendar and to the strength of the case for reform, and it has instigated a number of influential national organizations to lend their weight to the movement. Two years ago the idea of reforming the calendar was regarded as something "cranky," but today it is taken seriously. This change in public opinion is due mainly to the realization that there can be effective reform without recourse to the drastic and peculiar expedient of dividing the year into thirteen months.

In 1935 a Committee of the League of Nations will meet again to consider the progress made since its last meeting in 1931, and, if it is satisfied that the time is ripe for reform, to agree upon the principles of a reformed calendar, which would be introduced in 1939. This year is indicated since January 1st, 1939, falls on a Sunday, and any acceptable reformed calendar would provide for the year to begin on the first day of the week.

Meanwhile, responsible world opinion must be mobilized. The Universal Christian Council, which represents all the Christian Churches outside the Roman Catholic Church, has already undertaken a study of calendar reform. The International Chamber of Commerce has pressed continually for reform since the war. The Rational Calendar Association is taking steps to bring the subject before international bodies representing the astronomers, statisticians, lawyers, railways, airways and other interests, with a view to securing opinion favorable to reform from those most concerned.

But much work remains to be done to enlighten public opinion, if the British representative at Geneva next year is to be in a position to say that Great Britain officially supports reform. It is one of the main purposes, therefore, of the Rational Calendar Association, to assist in disseminating a wider knowledge of a topic of everyday concern and to encourage discussion in the press, in debating clubs, schools and elsewhere of the movement for rational reform.

EXCERPTS AND REVIEWS

Canada Favors Twelve

By Dr. A. Vibert Douglas

Professor of Astronomy, McGill University

(From an Address before the Canadian Progress Club, Montreal)

REVISION of the Gregorian calendar to a fixed 12-month or 13-month world-wide arrangement is a question of too much importance to be placed in the hands of uninformed government representatives, following political whims.

I refer specifically to a meeting of 44 nations at Geneva in 1931, when official representatives of these countries assembled to discuss the question of calendar reform. At that time, the Canadian representative voted for a 13-month calendar, when decidedly Canadian public opinion inclined towards a 12-month revision.

Regarding the whole problem of calendar reform, it is felt everywhere that every day of the month should occur each year on the same week-day. Also that a fixed Easter should be arranged, doing away with the changeable dates from March 22 anywhere up to April 25.

In the Church Calendar

By Dr. George H. Schnur

(From the Year Book of the United Lutheran Church)

CALENDAR revision is in the air. For years business interests have complained of the inconsistencies and irregularities of our present calendar.

Several proposals for calendar simplification have been placed before the world. By the gradual process of elimination through popular opinion two schemes of revision are now seriously considered. Several years ago we prepared for our Year Book a study of the Eastman calendar, providing for a division of the year into 13 months. But the insertion of a new month, the very radical changes of anniversary dates, as well as the upsetting of the old division of the year into quarters has raised a storm of opposition. Another plan has won many friends; it is called The World Calendar.

The advantages of such revision from a business, social, civic or scientific standpoint, we do not care to consider in these columns at the present time; our aim is to show its effects upon the Church Year:

Pivotal Days of the Church Year: Christmas, Dec. 25; always Monday. Epiphany, Jan. 6; always Friday. Easter, Apl. 8; a fixed Sunday date.

Other Festival Days: First Sunday in Advent, Dec. 3. Jesus Name Day, Sunday, Jan. 1. Transfiguration Sunday, Jan. 29. Palm Sunday, Apl. 1. Good Friday, Apl. 6. Ascension Day, Thursday, May 16. Whitsunday, May 26. Trinity Sunday, June 3. Reformation Day, Tuesday, Oct. 31. Thanksgiving Day, Thursday, Nov. 23.

Church Year Dates: Advent Sundays, Dec. 3, 10, 17, 24. Sundays after Epiphany, Jan. 8, 15, 22, 29. Pre-Lenten Sundays, Feb. 5, 12, 19. Ash Wednesday, Feb. 22. Sundays in Lent, Feb. 26, Mch. 3, 10, 17, 24, Apl. 1. Sundays after Easter, Apl. 15, 22, 29, May 5, 12. Exaudi Sunday, May 19. Sundays after Trinity, always 25.

Losses of Days and Lessons: Two Sundays after Christmas. Epiphany Sundays, IV and V (VI being used). Sundays after Trinity, XXV and XXVI (XXVII used).

No minor festival on Sunday, except the day "Nativity, John the Baptist," Sunday, June 24, Third Sunday after Trinity.

The World Calendar, says a recent writer, "contains the maximum regularity consistent with the minimum of change; and the result is a calendar that looks quite familiar and yet is entirely stable and changeless."

Unquestionably Superior

By Dr. Frederick C. Leonard

Chairman Dept. of Astronomy, University of California at Los Angeles

(From a Leaflet Published by the Astronomical Society of the Pacific)

BECAUSE of the complications which arise in the present calendar from the inequalities in the lengths of the months, ranging from 28 to 31 days, and which result in the unfortunate condition that the calendars of all years are not alike, vari-

ous proposals have been made, especially in the course of the last two decades, so to reform the calendar as to eliminate these infelicities and to make the calendar of every year the same as that of every other year.

The most workable plan which has yet been evolved, and at the same time the one which would cause the least confusion in the transition from the old order of things to the new, is undoubtedly that called The World Calendar. This is a perpetual, symmetrical 12-month calendar, which consists of four identical quarters of 91 days each.

Still another plan is that of the International Fixed Calendar, which consists of 13 months of 28 days each.

While the 13-month calendar appears to possess the virtue of simplicity, it has, nevertheless, two very serious drawbacks, which will, almost certainly, and justifiably, preclude its general adoption. The first, and doubtless the more significant, of these is that 13 is a prime number. Another practical disadvantage inherent in the 13-month calendar is the confusion which arises wherever an attempt is made to correlate its dates with the corresponding ones of the now current Gregorian calendar. For these reasons, if for no others, the 12-month World Calendar is unquestionably superior to the 13-month calendar, and doubtless more acceptable to the large majority of people.

Religious Support

By Frederic J. Haskin

Washington Correspondent for Many Leading American Newspapers

IN VIEW of the fact that much of the opposition to calendar reform has emanated from churchmen and devout congregations who have taken the position that divinely ordained time divisions must not be interfered with, special interest attaches to the research of the Rev. Dr. Edward S. Schwegler, Roman Catholic priest of the Diocese of Buffalo, which develops that the oldest and most ardent protagonists of such reform have been Catholic priests.

To be sure, different denominations of churchmen take different positions in the matter, the Jews and the Seventh Day Adventists being among the most notable opponents of change, but the showing that such devout religionists of the Christian faith as the Roman Catholic clergy support calendar reform strongly suggests that the idea of rejection on religious grounds is not wholly tenable. Church of England prelates also favor reform.

Dr. Schwegler even goes so far as to challenge the position of the Jews and the Adventists. Writing in The Sign, a national Catholic periodical, Dr. Schwegler declares: "But it is not so clear that the Creator established the seven-day week. It cannot be maintained that He did so at the creation, for no one knows just how long each of those seven 'days' of creation we read of in Genesis lasted." The Buffalo priest agrees that a Sabbath day was ordained of God, but finds no evidence that it was any particular Sabbath or Sunday as measured by any known calendar.

The researches of Dr. Schwegler show that in the second century after Christ the Christian priesthood was greatly concerned over calendar reform, especially in the matter of Easter.

The Pope of Rome, Gregory, was a calendar reformer, but in a mathematical sense and as a measure of correcting the serious time lapses which had accumulated. He made no effort to change the number of months in the year or days in the month. The Gregorian reform did not come until 1582, many centuries after the first efforts of priests to reform the calendar.

What is made especially clear by Dr. Schwegler's research is that the clergy have not recoiled from calendar reform as contrary to divine teaching.

Father Gianfranceschi, the Jesuit priest who acted in a semi-official capacity for the Holy See in connection with the League of Nations discussions of calendar reform, said: "The Church of Rome would never hold aloof from anything which concerned the welfare of humanity."

There seems to be a tendency away from the 13-month year, so long advocated by the late George Eastman, and toward the League of Nations "World Calendar."

The world has been drifting along for many aeons using any number of different calendars. There are many now in use contemporaneously. Confusion is sometimes caused in business relations because of this Babel of dates.

CURRENT PRESS COMMENT

Canadian Opinion

Brockville (Ont.) Recorder-Times

Canadians are a conservative people, slow to accept drastic changes and slower still to abandon habits and customs which have become fixed in their national life. It will therefore be a little surprising to most of them to be reminded that in 1931 their country was committed to a new calendar consisting of 13 months, and that Canada become one of only two nations to approve this principle. The occasion was a meeting of the League of Nations which discussed calendar reform, and the only other country supporting a 13-month plan was a small Central European state.

If this situation represented anything but unanimity on the part of the nations regarding this particular form of calendar revision, it becomes more apparent that a division of opinion exists, with the knowledge that both Great Britain and the United States are opposed to a 13-month calendar. If they favor anything, they are for a modification of the present calendar on a 12-month basis, in harmony with the plan of the Rational Calendar Association of Great Britain.

The 12-month revision looks like a much more reasonable plan than that which is being put forward by advocates of a 13-month calendar such as Canada accepted at Geneva in 1931.

If there is to be any change in the calendar, let us by all means have one of 12 instead of 13 months. Withdrawal by Canada of her acceptance of three years ago is something that it appears will have to be done in any case.

Major Opposition

Cincinnati Post

The 13-month calendar advocates have run into some major opposition from the director of the U. S. Naval Observatory, who believes that any radical calendar changes will be costly to American business and cause endless confusion.

Such a calendar would be even tougher on seamen, would complicate their work and might even jeopardize their safety, in the opinion of Captain J. F. Hellweg, whose duty it is to determine the time by celestial observations and broadcast it daily, accurate to the fraction of a second.

The World Calendar Association, of which Capt. Hellweg is a member, proposes an equal-quarter, 12-month revision of the calendar.

The 13-month calendar, on the other hand, has so many disadvantages, according to Captain Hellweg, that it wouldn't benefit anyone, with the possible exception of lawyers who might be kept busy untangling business litigation.

Studies in Schools

New York Grade Teacher

Worldwide movement for calendar reform has now made so much progress that in 1939 the proposed new World Calendar may conceivably be adopted.

Since the calendar is based on mathematics, why not ask one or more of the best mathematicians in the upper grades to study this subject and formulate from it a number of arithmetic problems for their classmates to solve?

Nine Million Voices

Christian Science Monitor

American fraternal insurance organizations with a membership of 9,000,000, are preparing to urge the United States government and the League of Nations to adopt The World Calendar. This action was approved in resolutions which executive officials of the organizations adopted in Chicago.

The resolutions opposed any proposal for a 13-month calendar, on the ground that such a division of the year would be impractical and inefficient. Such a calendar, they held, "would throw out of line the existing schedules and experience tables of life insurance, would disrupt premium payments, would make difficult the comparison of statistics, would render more difficult and expensive the collection of money, the contact with membership and the scientific adjustment of rate structures."

JOURNAL OF CALENDAR REFORM

EDITORS

CHARLES D. MORRIS CARL LIDDLE

Published by

The World Calendar Association, 485 Madison Avenue, New York City

ELISABETH ACHELIS, *President*

VOL. IV JUNE, 1934 No. 2

APPROVAL of the 12-month equal-quarter calendar by the National Fraternal Congress of America, which speaks for 9,000,000 members of fraternal insurance societies, has attracted wide attention in press dispatches and editorial comment. The text of the resolutions passed at the Chicago meeting, after introductory remarks by Peter F. Gilroy, head of the Woodmen of the World, was as follows:

"Whereas, proposals for the revision of the present calendar are now being internationally considered with a view to inaugurating a change in 1939; and whereas any change in the present calendar will be a matter of concern and importance to the interests represented in this organization; and whereas the adoption of a 13-month calendar would throw out of line the existing rate schedules and experience tables; would disrupt premium payments which are made semi-annually, quarterly and monthly; would make difficult the comparison of statistics; and would render more difficult and expensive the collection of money, contact with membership and scientific adjustment of rate structures:

"Be it resolved, that the Presidents Section of the National Fraternal Congress is opposed to any 13-month calendar, and favors the adoption of a 12-month perpetual calendar, of the type known in America as The World Calendar; and that copies of this resolution shall be forwarded to the Secretary of State of the United States, to the Director General of the League of Nations, and to the member societies of the National Fraternal Congress."

A similar resolution was passed by the Secretaries Section of the Congress at sessions held in conjunction with the meeting of the Presidents Section. Minutes of the Secretaries meeting state:

"A resolution was unanimously adopted expressing strong opposition to the 13-month calendar, which would be detrimental to the fraternal benefit societies, particularly in view of the fact that their monthly rate structure is based on a 12-month year. The World Calendar was approved.

In both cases the resolution was carried unanimously, at sessions attended by the largest number of fraternal executives gathered together in many years.

FROM THE MAILBAG

The propaganda for the 13-month calendar has been injurious to real calendar reform and emanates from a narrow minded group with a narrow accounting point of view. I'm strong against it.—Frank A. Ross, Editor Journal American Statistical Association, New York City.

I think the 13-month plan has serious drawbacks.—A T. Falk, Director of Research and Education, Advertising Federation of America, New York City.

Government should endorse, through Congressional action, the equal-quarter plan and endeavor to secure adoption, through the State Department, by other nations.—R. H. Gregory, Comptroller Western Electric, New York City.

The present calendar is ridiculous. Lack of coincidence of week days with monthly dates is the source of endless confusion and needless waste of energy. The changes required to set all this in order are so simple that it seems as if nothing stands in the way of making the change except inertia.—Franklin B. Wright, Plant Statistician Pacific Tel. and Tel. Co., Berkeley, Calif.

I am unqualifiedly opposed to the 13-month plan but think the 91-day quarter divided into three months of 31-30-30 days respectively would be an improvement over the present system.—Albert I. Stiles, Industrial Engineer, Prudential Insurance Co., Newark, N. J.

A 12-month equal-quarter plan can be adopted with the least confusion and without destroying the efficiency of existing records. As a leading manufacturing and industrial country, the United States should foster a movement for calendar reform, as the advantages to industry are sufficient to warrant this government taking initiative in presenting the movement to other nations. A movement of calendar reform must come not only through public acceptance of the plan, but from the expressed desire on the part of the general public for such a change.—E. J. Riley, General Electric Co., Cleveland, O.

It seems to me that great savings in business would result; and that from a statistician's point of view, the gains would be significant. The world is getting so complex that anything tending towards simplicity is to be commended unreservedly. Having been in business, and in the Federal Government service for more than 15 years, I can say that I know the 12-month plan would have substantial public benefits—it would take away a lot of ragged edges that quite unnecessarily add to the complexity of business statistics, and business operation.—James Spear Taylor, Dept. of Commerce, Div. of Building and Housing, Washington, D. C.

I have every sympathy for the program for which your Association stands and I trust that conventions bringing together large numbers of public-spirited persons will see fit to act favorably upon your proposal.—G. F. Meyer, Board of Education, Minneapolis.

The 12-month equal-quarter plan would apparently cause less confusion with its inception; meet with less objection from the layman; and simplify the collection of comparable statistics.—Clara E. Councell, Bureau of Vital Statistics, Baltimore.

I believe the 13-month plan is fundamentally unsound in practically all its practical applications.—Edward H. Davis, Waterbury, Conn.

This matter has been the object of study on my part for many years.—Edward J. Hanna, Archbishop of San Francisco, San Francisco.

I am glad to say that I am of a mind with you on the point of calendar reform, and therefore I make it manifest by filling in a membership card.—O. Maruyama, Dir. Osaka Central Tel. Office, Osaka, Japan.

Was originally an exponent of the 13-month plan, but have been thoroughly convinced during recent years of the overwhelming values of the 12-month equal-quarter calendar.—A. B. Jackson, D.D., Former Moderator, Synod of Missouri, Jefferson City, Mo.

I would be strongly opposed to the 13-month plan.—L. R. Miller, Metropolitan Life Ins. Co.. New York.

MEMBERS OF THE WORLD CALENDAR ASSOCIATION

485 Madison Avenue, New York City

AMERICAN ADVISORY COMMITTEE

GEORGE GORDON BATTLE
DR. S. PARKES CADMAN
CHARLES S. McVEIGH
WM. M. KINGSLEY
PROF. H. PARKER WILLIS
PROF. WM. STARR MYERS
CAPT. J. F. HELLWEG, U. S. N.
HENRY W. BEARCE

FOREIGN ADVISORY COMMITTEE

C. DAVID STELLING (ENGLAND)
PAUL-LOUIS HERVIER (FRANCE)
ATHANASE POLITIS (GREECE)
RAYMOND MAGE (SWITZERLAND)
DR. H. BLUME (DANZIG)
PROF. P. STROOBANT (BELGIUM)
ABRAHAM FROWEIN (GERMANY)
AMEDEO GIANNINI (ITALY)

Membership is based on an active interest in the study of an adequate and effective improvement of the calendar. Owing to lack of space, a large number of names have been omitted. They will be printed in future issues.

T. W. Andrews, School Supt., High Point, N. C.
Irene Armstrong, Executive, Boston.
Winifred Austin, Teacher, Ogontz, Pa.
R. V. Bachman, Teacher, Salt Lake City.
M. R. Barnes, Lawyer, Washington, D. C.
W. H. Barton, Prof., Chester, Pa.
H. W. Bearce, Physicist, Washington, D. C.
W. E. Belleau, Instructor, Milwaukee.
A. J. Bernhardt, Accountant, New York City.
Palmer Bevis, Publicity Director, New York.
A. J. Beyleveld, Economist, Pretoria, Africa.
Charles Bieler, Prof., Montreal, Canada.
I. D. Borders, Clergyman, Boonville, Mo.
G. A. Bowman, School Supt., Marion, Ohio.
A. B. Caldwell, Clergyman, Baltimore.
F. C. Caldwell, Prof., Columbus, Ohio.
C. O. Callender, Clergyman, Toledo, Ohio.
Floyd Campbell, Insurance, Hamilton, Tex.
Ira Campbell, Lawyer, New York City.
W. W. Campbell, General Elec. Co., Cleveland.
Wm. Campbell, Surgeon, Valley City, N. D.
L. S. Caple, Engineer, Rochester, N. Y.
J. V. Carson, Auditor, Los Angeles.
G. E. Cary, Clergyman, Bradford, Mass.
H. C. Case, Teacher, Urbana, Ill.
A. I. Cassell, Architect, Washington, D. C.
Brother A. Cassian, Teacher, New York City.
S. McC. Cavert, Clergyman, New York City.
H. L. Cecil, School Supt., Adams, Mass.
H. S. Chadwick, Editor, Seattle, Wash.
Lucian Chaney, Statistician, Washington, D. C.
L. S. Chapman, Lawyer, Pasadena, Cal.
O. H. Charles, Educator, Westerville, Ohio.
R. L. Charles, Prof., Lancaster, Pa.
J. M. Charteris, Merchant, Great Falls, Mont.
S. T. Chen, Actuary, Shanghai, China.
Paul Cherington, Statistician, New York.
M. E. Chunn, Statistician, Takoma Park, Md.
G. E. Clapp, Editor, New London, Conn.
W. H. Clapp, Prof., Pasadena, Cal.
E. R. Clinchy, Clergyman, New York City.
R. E. Cline, Clergyman, Blairsville, Pa.
H. R. Coddington, Insurance, Denver.
Franklin Connor, Supervisor, Philadelphia.
E. M. Coulter, Prof., Athens, Ga.
A. T. Court, Statistician, Detroit.
E. S. Cowan, County Clerk, Albion, Neb.
J. H. Craig, Salesman, Charlotte, N. C.
C. C. Crawford, Prof., Valley City, N. D.
R. H. Crossfield, Clergyman, Birmingham.
J. K. Cruze, Editor, Brooklyn, N. Y.
J. W. Cummins, Clergyman, Edwardsville, Ill.
J. G. Curtis, Lawyer, Erie, Pa.
M. B. Cushing, Prof., Brunswick, Maine.
C. S. Davis, School Supt., Steelton, Pa.
Edgar Dawson, Prof., New York City.
Joseph Demmery, Prof., Seattle.
M. J. Donna, Executive, Braidwood, Ill.
H. P. Driver, Edison Elec. Co., Boston.
M. J. Duhr, Catholic Priest, Hastings, Minn.
G. M. Dutcher, Prof., Middletown, Conn.
Isabel Eckles, School Supt., Santa Fe, N. M.
Alfred Ela, Real Estate Broker, Boston.
R. S. Faris, Physician, Richmond, Va.
L. W. Fast, School Supt., Mt. Clemens, Mich.
Thomas J. Feeney, S. J., Editor, New York.
A. W. Fleischmann, Clergyman, Greenville, N. C.
Lee Galloway, Editor, New York City.
J. P. Garen, Physician, Olean, N. Y.
James E. Gheen, Counsellor, New York City.
C. N. Gibney, Secy. Y. M. C. A., Brooklyn, N. Y.
R. M. Gray, School Supt., Statesville, N. C.
C. C. Grove, Prof., New York City.
A. M. Harding, Prof., Fayetteville, Ark.
Osgood Hardy, Prof., Los Angeles.
H. H. Harshman, Mfr., Toronto, Canada.
Rena Hayden, School Principal, Floral Park, N. Y.
R. M. Henderson, School Supt., Glenwood, Iowa.
C. E. Hertz, School Supt., Norway, Mich.
A. L. Hill, Teacher, Peru, Neb.
C. C. Hubbell, Civil Engr., Norwalk, Conn.
Chas. D. Humberd, Physician, Barnard, Mo.
L. C. Hunt, School Supt., Burlington, Vt.
C. A. Hurlbut, Finance, New York City.
C. D. Jones, School Supt., Hermosa Beach, Cal.
C. F. Jones, Teacher, Worcester, Mass.
W. E. Kemmerich, Chemist, Nyack, N. Y.
W. L. Kennon, Prof., University, Miss.
F. M. Kerby, Editor, Washington, D. C.
E. S. Kerr, School Supt., Salem, Ohio.
Eugene Kerr, Physician, Chester, Pa.
W. H. Kilpatrick, Prof., New York City.
J. A. Kinghorn, Coal Dealer, Providence.
J. I. Knudson, Prof., Brooklyn, N. Y.
C. J. Kraemer, Prof., New York City.
R. E. Laramy, School Supt., Altoona, Pa.
Joshua Larson, Teacher, St. Peter, Minn.
N. J. Lasher, School Supt., Seymour, Ind.
F. C. Levin, Teacher, Fredericksburg, Va.
O. G. Libby, Prof., Grand Forks, N. D.
Geo. C. Love, Civil Engineer, Durham, N. C.
G. N. Mackenzie, School Supt., Glencoe, Ill.
J. T. Madden, Dean, N. Y. U., New York City.
Henry V. Matthews, School Principal, Lodi, N. J.
O. Maruyama, Telephone Office, Osaka, Japan.
C. F. Mercer, School Supt., Lynwood, Cal.
J. B. Morgan, School Supt., Montrose, Col.
J. F. Morton, Museum Curator, Paterson, N. J.
L. S. Mudge, Clergyman, Philadelphia.
W. A. Myrdal, U. S. Revenue Svc., Fargo, N. D.
E. H. Nelson, School Supt., Tama, Iowa.

J. J. O'Donoghue, Priest, Mt. Sterling, Ill.
C. H. Oman, School Supt., Garnett, Kan.
C. F. Painter, Physician, Boston.
W. A. Parker, School Supt., Tarrant, Ala.
V. M. Patterson, Clergyman, Lambert, N. J.
T. C. Pears, Clergyman, Philadelphia.
H. E. Pease, Watchmaker, Providence.
W. G. Peterkin, Lawyer, Parkersburg, W. Va.
H. Phipps, School Supt., Whitinsville, Mass.
A. E. Pierce, School Supt., Southbridge, Mass.
C. C. Pierce, Physician, Washington, D. C.
E. V. Pierce, Clergyman, Minneapolis.
Robert Pinder, Retail Lumber, Effingham, Kan.
F. E. Pitkin, School Supt., Andover, Mass.
G. A. Plimpton, Publisher, New York City.
F. L. Pond, School Supt., Meadville, Pa.
M. P. Potter, Statistician, New York City.
E. W. Prattorius, Educator, Cleveland.
Ruth Preslar, Teacher, Norwood, N. C.
C. M. Pruitt, Prof., New York City.
L. L. Putnam, Accountant, Chicago.
N. D. Rand, Editor, Wilmington, Del.
F. H. Randall, Clergyman, Dennison, Ohio.
Louis Reichert, Insurance, New York City.
S. H. Renton, Pres. Rubber Co., New York.
W. F. Rex, Clergyman, Fairfield, Iowa.
I. G. Reyes, Astronomer, Santiago, S. A.
W. G. Rice, State Official, Albany, N. Y.
A. H. Richardson, A. T. and T. Co., New York.
E. J. Riley, Accountant, Cleveland.
A. J. Robertson, Astronomer, Washington, D. C.
Luis Rodes, Astronomer, Tortosa, Spain.
W. H. Rogers, Clergyman, Portland, Ore.
F. W. Roman, Lecturer, Los Angeles.
Harry S. Rooks, Lawyer, St. Louis, Mo.
W. T. Root, Teacher, Valencia, Pa.
F. A. Ross, Prof., New York City.
Leo E. Rowe, Mich. Bell Tel. Co., Detroit.
H. D. Rugg, Clergyman, New York City.
P. J. Rulon, Instructor, Cambridge, Mass.
S. W. Russell, Swift and Co., Chicago.
John Rydjord, Teacher, Wichita, Kan.
Max Sasuly, Statistician, Washington, D. C.
Geo. Schulz, Clergyman, Racine, Wis.
D. Scoates, Agri. Engineer, College Station, Tex.
J. O. Scoggin, Teacher, Ottawa, Ky.
J. N. Score, Clergyman, Houston, Tex.
Wm. B. Scott, Prof., Princeton, N. J.
Geo. W. Scudder, Clergyman, Bath, Me.
F. O. Seamans, Clergyman, Tulsa, Okla.
Paul Seaton, Newspaper Reporter, New Concord, Ohio.
Charles Seely, U. S. N., New York City.
Chas. E. Seitz, Prof., Blacksburg, Va.
Melville Shafer, Clergyman, Wrentham, Mass.
Geoffrey Shepherd, Prof., Ames, Ia.
Jay J. Sherman, Prof., Detroit.
Andrew Shiland, Lawyer, New York City.
Carl Shoemaker, Clergyman, Philadelphia.
J. F. Short, School Principal, New Berlin, Ill.
A. B. Sais, Prof., Athens, Ohio.
Frank G. Smith, Clergyman, Omaha, Neb.
W. A. Smith, Clergyman, Conway, N. H.
F. E. Soule, Fire Marshal, Coatesville, Pa.
Mortimer Spiegelman, Statistician, Brooklyn.
A. H. Staley, School Supt., Hastings, Neb.
H. M. Stanley, Civil Engineer, Roanoke, Va.
J. V. Staples, Writer, Marshall, Tex.
Robert B. Starkey, Lawyer, Lawrenceville, Va.
Harold Stein, Instructor, New York City.
J. R. Stein, Clergyman, Philadelphia.
G. Steiner, Bureau of Plant Industry, Washington, D. C.
Fred H. Sterns, Am. Tel. and Tel. Co., New York.
A. W. Taylor, Teacher, New York City.
Clara Taylor, Investment Councilor, New York.
Mary Church Terrell, Lecturer, Washington, D. C.
F. E. Thomas, Lawyer, Tucson, Ariz.
R. L. Thompson, Economist, Baton Rouge, La.
W. S. Thompson, Director of Research, Oxford, Ohio.
K. K. Tibbetts, School Supt., Wheaton, Ill.
M. G. Tolbert, Lawyer, Hobart, Okla.
H. R. Tolley, Director, Giannini Foundation, Berkeley, Cal.
F. W. Tomkins, Clergyman, Washington, Conn.
S. D. Tscherny, Director of Observatory, Kiev, Ukraina, Russia.
R. E. Uhland, Agri. Engineer, Bethany, Mo.
J. P. Uhler, Prof., St. Peter, Minn.
George Van Buren, Metropolitan Life Ins. Co., New York City.
B. R. Van Zyl, Clergyman, Cicero, Ill.
Frances Vincent, Research Asst., Wilmington, Del.
W. D. Virtue, Accountant, Denver, Col.
Warren C. Waite, Prof., St. Paul, Minn.
A. G. Wallace, Clergyman, Wellington, Kan.
T. S. Waller, Lawyer, Paducah, Ky.
H. C. Walling, Instructor, Austin, Tex.
R. L. Wallis, Entomologist, Estancia, N. M.
Charles Walton, Jr., Merchant, Philadelphia.
Joseph A. Ward, Clergyman, Philadelphia.
Walter G. Ward, Prof., Manhattan, Kan.
T. P. Warlow, Lawyer, Orlando, Fla.
Edward P. Warner, Editor, New York City.
Robert Warren, Clergyman, Boston.
V. G. Warren, Accountant, Helena, Mont.
James Washburn, Actuary, Nashville, Tenn.
Albert E. Waugh, Prof., Storrs, Conn.
E. G. Webb, Instructor, Guelph, Canada.
C. A. Weber, Clergyman, New York City.
C. E. Weinhardt, General Accountant, Omaha, Neb.
Walter W. Weir, Instructor, Berkeley, Cal.
H. G. Wells, Author, London, England.
John M. Wells, Clergyman, Sumter, S. C.
Michael Wermel, Economist, New York City.
V. R. Wertz, Prof., Columbus, Ohio.
A. J. Westland, Prof., Spring Hill, Ala.
Leon Whipple, Prof., New York City.
James Whittemore, Lawyer, Santa Barbara, Cal.
M. T. Whittico, Editor, Keystone, W. Va.
Paul E. Wickman, Clergyman, Lompoc, Cal.
J. P. Wiegman, Engineer, Chicago.
Sidney W. Wilcox, N. Y. State Dept. of Labor, Albany, N. Y.
L. C. Wilcoxen, Civil Engineer, Detroit.
E. R. Williams, Lawyer, Richmond, Va.
Paul B. Williams, Editor, Utica, N. Y.
R. Murphy Williams, Clergyman, Greensboro, N. C.
A. B. Wolfe, Prof., Columbus, Ohio.
T. L. Woo, Research Institute, Nanking, China.
William Wood, Clergyman, Augusta, Me.
John Zeleny, Prof., New Haven, Conn.

INTERNATIONAL ORGANIZATIONS FOR REFORM OF THE CALENDAR

ENGLAND: Rational Calendar Association, 38 Parliament Street, London.

FRANCE: Bureau d'Etudes pour la Reforme du Calendrier, 5 Rue Bernoulli, Paris.

SWITZERLAND: Swiss National Committee on Calendar Reform, Prof. Emile Marchand, Secy., 4 Jenatschstrasse, Zurich.

BELGIUM: Belgian National Committee on Calendar Reform, Prof. P. Stroobant, Secy., Royal Observatory, Brussels.

ITALY: Italian National Committee on Calendar Reform, Prof. Amedeo Giannini, Secy., Via del Seminario 113, Rome.

GERMANY: German National Committee on Calendar Reform, Kurfurstendamm 193-194, Berlin.

GREECE: Greek National Committee on Calendar Reform, Prof. D. Eginitis, Secy., Observatory of Athens, Athens.